



SERIES OMPBD7 PILOT DEVICES

THE ECONOMICAL SOLUTION FOR HIGH PERFORMANCE CONTROL, SIGNALING AND SWITCHING APPLICATIONS

Omega's rugged OMPBD7 pilot devices offer maximum flexibility and a wide choice for all applications. This 22 mm line is aesthetically appealing and modularly designed to make assembly and interchangeability easy. The OMPBD7 operators are available in two different body styles to meet every application need. Both operators exhibit a new lower profile stylish appearance while maintaining the rugged performance necessary for demanding environments.

Two Operator Types

OMPBD7P is a plastic operator with a captive black plastic front bezel. Constructed of high-grade thermoplastics the OMPBD7P is the corrosion resistant solution for harsh environments. For super tough applications, the OMPBD7M has a die-cast zinc housing and mounting ring for rugged durability. Both are finished with corrosion resistant chrome plating. The OMPBD7M also features a captive shiny metal bezel for a polished appearance.

Less Inventory, More Choices

Omega offers OMPBD7 pushbuttons in a wide range of devices— from selector switches to multifunction pushbuttons. Their modular design keeps the number of required parts to a minimum, while offering multiple functions and a variety of style and color combinations. Back-of-panel components can be combined with all front elements, making the OMPBD7 line extremely flexible. This approach reduces inventory, yet provides virtually any configuration you require.

Quick, Easy Installation

A standard anti-rotation tab keeps front elements from turning or falling off the control panel, making it possible for one person to install all OMPBD7 components even if the front and rear panel are not accessible at the same time. A central mounting ring allows for quick installation and removal of all OMPBD7 operators. All back-of-panel components including contact blocks and power module elements snap-on and



OMPBD7M-F3PX10, \$12, shown larger than actual size, see page 206 for details.

OMPBD7M-F9, \$5, shown larger than actual size, see page 207 for details.

OMPBD7P-F9, \$4, shown larger than actual size, see page 207 for details.

are readily accessible and interchangeable without removing the pilot device from the panel.

Tool-Less Mounting Latch

The OMPBD7 “tool-less” mounting latch mates the front element with the contact blocks and other back-of-panel components. The mounting latch is available in a plastic and metal design. The latches are easily installed with a “click” and removed by pushing a rotating collar to the right. Quick, reliable and strong, it's the best pilot device mounting latch available in the industry.



Long Electrical and Mechanical Life

Most OMPBD7 operators have a mechanical life of ten million operations... five million contact blocks. Electrical life ranges from 500,000 cycles at 3 A to ten million at 0.1 A. The OMPBD7 line is also electronics compatible with self cleaning contacts.

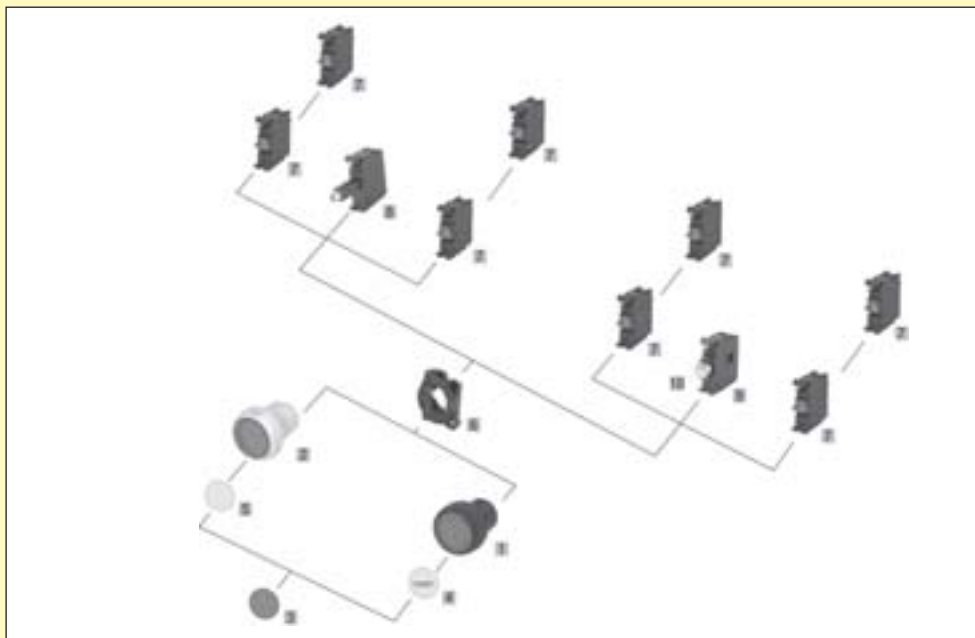
Environmental Ratings

Front elements, including pushbuttons, mushroom operators and selector switches, are IP 66 protection against submersion, oil and dirt, making them reliable in the toughest industrial environments. Metal operators are Type 4/13 and Type 4/4X/13 for plastic operators.



OMPBD7 Pilot Devices –Modular, Flexible and Complete

This illustration shows typical combinations available depending on the front and back-of panel components chosen. Up to six contact blocks can be used on non-illuminated devices.



1 OMPBD7P Operator—Corrosion resistant plastic construction with black plastic bezel

2 OMPBD7M Operator—Metal construction with shiny metal bezel

3 Colored Lenses and Color Caps— Available in many colors

4/5 Inscription Diffusers—Diffusers and color caps available in many standard text and ISO symbol options, and foreign languages

6 Tool-less Mounting Latch— For snap-on contact blocks and power module elements

7 Contact Blocks—Five types available including NOEM, NCLB, and Low Voltage

8 Power Modules, Integral LED—Full voltage module requires only one slot

9 Power Modules, Incandescent—Full voltage module requires only one slot

10 Bulbs—Incandescent and neon bulbs that include the incandescent power module

Additional Features and Options

Heavy-Duty Ratings—The OMPBD7 line is UL 46E, NEMA A600 and Q600 listed. All components carry a 10 Amp continuous current rating, covering all industrial control needs.

All Major Approvals—OMPBD7 front elements are UL Recognized, while all OMPBD7 assemblies are UL Approved. The line is also approved by every major international agency making them ideal for export requirements.

Special Contact Blocks & Power Modules—Screwless terminals are available for latching and base mounted contacts blocks & Integral LED modules. A new latch mounted screw type dual circuit contact block is available.

H-Bridge & Gold Plated Contacts

By doubling the available paths for current to pass through the contacts, the standard H-bridge design provides a cleaner current flow. Gold plated contacts quadruple the current paths for increased contact reliability in low voltage applications.

Molded Inscription Caps/Diffusers

Abrasion proof inscription caps/diffusers are offered in a two-color molded design for most common inscription text and symbols used in the industry.

Laser Engraved Caps/Diffusers

Durable long lasting laser engraved inscription caps/diffusers are offered in a wide variety of ISO symbols and text options. Unlike heat-stamped or ink inscriptions that can wear off, our molded and laser engraved inscription caps withstand repeated use in the harshest environments.

Touch-Safe—Back of panel components are finger safe, with IP 20 protection.

Long Lasting Integral LED Assemblies

Our new LED lamps last up to 11 years! They are conveniently offered as a complete unit for all illuminated operators which include the one piece Integral LED Module.

They come in five different colors: amber, blue, green, red and white.



Full Line of Accessories and Enclosures

A variety of metal and plastic enclosures are available for any application. Replacement components, legend plates and convenient accessories are available from stock, including rings for adapting 30 mm holes to fit the 22 mm OMPBD7 line.



OMPBD7 SERIES PUSHBUTTONS 22.5 mm

Kits
Start at
\$ 11



Visit
omegamation.com
for our complete
line of
pushbuttons



OMPBD7M-F3PX10, \$12,
shown larger than actual size.



OMPBD7P-F3PX10, \$11,
shown larger than actual size.

To Order *(Specify Model Number)*

MOST POPULAR MODELS HIGHLIGHTED!

MODEL NO.	PRICE	DESCRIPTION
Plastic Flush, Non-Illuminating, Momentary Pushbuttons (Complete Kits) 22.5 mm		
OMPBD7P-F2PX01	\$11.00	Plastic black 1 NC momentary-flush
OMPBD7P-F2PX10	11.00	Plastic black 1 NO momentary-flush
OMPBD7P-F3PX01	11.00	Plastic green 1 NC momentary
OMPBD7P-F3PX10	11.00	Plastic green 1 NO momentary
OMPBD7P-F4PX01	11.00	Plastic red 1 NC momentary
OMPBD7P-F4PX10	11.00	Plastic red 1 NO momentary
Metal Flush, Non-Illuminating, Momentary Pushbuttons (Complete Kits) 22.5 mm		
OMPBD7M-F2PX01	\$12.00	Metal black 1 NC momentary-flush
OMPBD7M-F2PX10	12.00	Metal black 1 NO momentary-flush
OMPBD7M-F3PX10	12.00	Metal green 1 NO momentary-flush
OMPBD7M-F4PX01	12.00	Metal red 1 NC momentary-flush
Plastic Flush, Non-Illuminating, Maintained Pushbuttons (Complete Kits) 22.5 mm		
OMPBD7P-FA2PX10E	\$14.00	Maintained non-illum plastic-plastic ring-black cap-flush-1 NOEM
OMPBD7P-FA2PX01	14.00	Maintained non-illum plastic-plastic ring-black cap-flush-1 NC
OMPBD7P-FA3PX10E	14.00	Maintained non-illum plastic-plastic ring-green cap-flush-1 NOEM
OMPBD7P-FA4PX01	14.00	Maintained non-illum plastic-plastic ring-red cap-flush-1 NC
Metal Flush, Non-Illuminating, Maintained Pushbuttons (Complete Kits) 22.5 mm		
OMPBD7M-FA2PX01	\$16.00	Maintained non-illum metal-metal ring-black-flush-1 NC
OMPBD7M-FA2PX10E	16.00	Maintained non-illum metal-metal ring-black-flush-1 NOEM
OMPBD7M-FA3PX01	16.00	Maintained non-illum metal-metal ring-green-flush-1 NC
OMPBD7M-FA3PX10E	16.00	Maintained non-illum metal-metal ring-green-flush-1 NOEM
OMPBD7M-FA4PX01	16.00	Maintained non-illum metal-metal ring-red-flush-1 NC
OMPBD7M-FA4PX10E	16.00	Maintained non-illum metal-metal ring-red-flush-1 NOEM

Complete kits comes with operator, color cap, mounting latch and contacts.

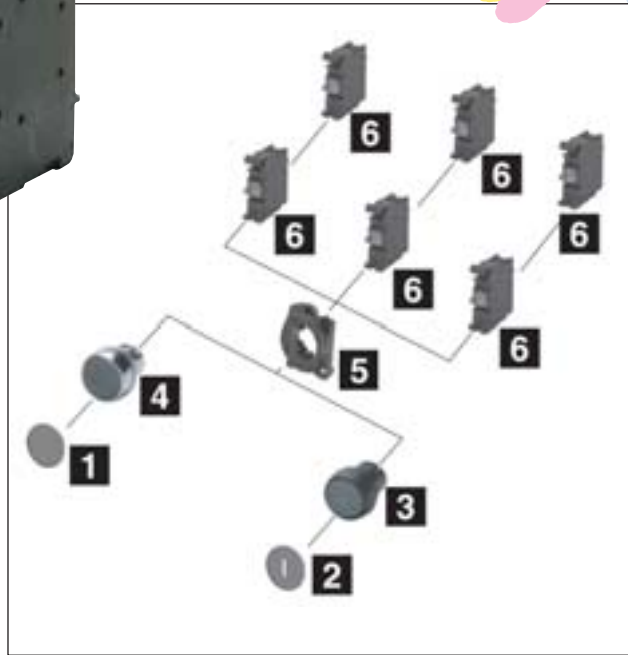
Ordering Example: OMPBD7P-F3PX10, normally open momentary, non-illuminating pushbutton kit, \$11.



OMPBD7P-F3PX10, \$11,
shown larger than actual size.



OMPBD7M-F3PX10, \$12,
shown larger than actual size.



Components diagram for momentary pushbuttons.

To Order (Specify Model Number)

MOST POPULAR MODELS HIGHLIGHTED!

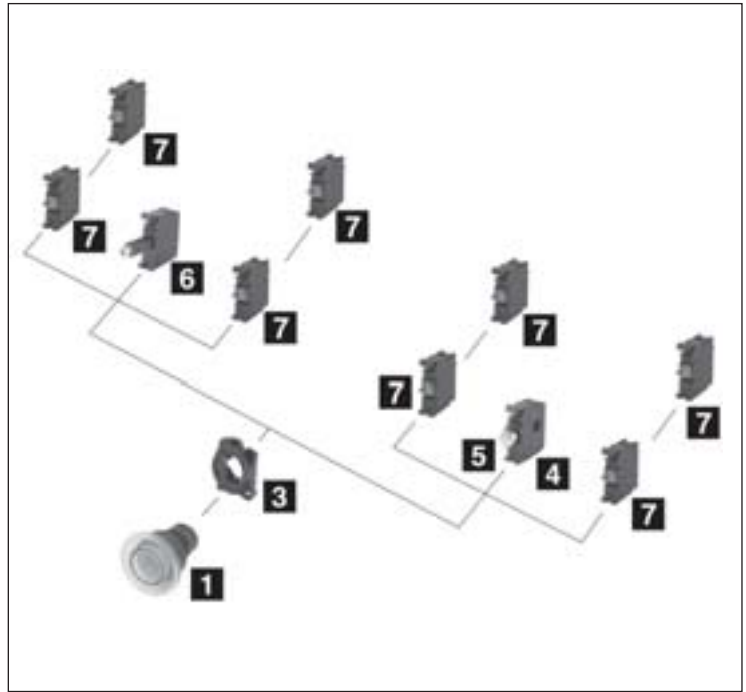
MODEL NO.	PRICE	DESCRIPTION
Color Caps 1		
OMPBD7-AF3	\$0.55	Color caps green-blank-flush
OMPBD7-AF4	0.55	Color caps red-blank-flush
OMPBD7-AF5	0.55	Color caps yellow-blank-flush
OMPBD7-AF6	0.55	Color caps blue-blank-flush
Inscription Color Caps 2		
OMPBD7-AF301	\$2.50	Inscription color caps green-START-flush
OMPBD7-AF306	2.50	Inscription color caps green "I" flush
OMPBD7-AF402	2.50	Inscription color caps red-STOP-flush
OMPBD7-AF405	2.50	Inscription color caps red-O-flush
Plastic Operator with Plastic Bezel 22.5 mm 3		
OMPBD7P-F9	\$4.00	Plastic operator with plastic bezel, momentary flush
OMPBD7P-FA9	6.00	Plastic operator with plastic bezel, maintained flush
Metal Operator with Metal Bezel 4		
OMPBD7M-F9	\$5.00	Metal operator with shiny metal front bezel, momentary flush
OMPBD7M-FA9	8.00	Metal operator with shiny metal front bezel, maintained flush
Tool-less Mounting Latch 5		
OMPBD7-ALM	\$4.95	Tool-less mounting latch, metal
OMPBD7-ALP	3.85	Tool-less mounting latch, plastic
Contact Blocks 6 Note: up to 6 contact blocks can be attached		
OMPBD7-X01	\$6.00	NC contact block contact block for momentary and maintained
OMPBD7-X10	6.00	NO contact block contact block for momentary
OMPBD7-X10E	6.00	NO early make contact block for momentary and maintained
OMPBD7-X01L	6.00	NC late break contact block for momentary
OMPBD7-X10V	12.00	NO low voltage contact block for momentary
OMPBD7-X01V	12.00	NC low voltage contact block for momentary and maintained

Comes with instruction sheet.

Ordering Example: OMPBD7-AF3, green color cap, OMPBD7P-F9, plastic operator with bezel, momentary flush, OMPBD7-ALP, mounting latch, OMPBD7-X10, no contact block, \$0.55 + 4 + 3.85 + 6 = \$14.40.



OMPBD7P-LMM43, \$14, shown larger than actual size.



Components diagram for illuminated mushroom pushbuttons.

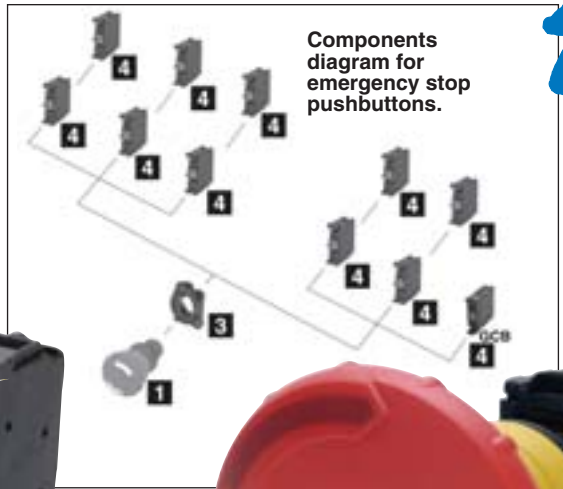
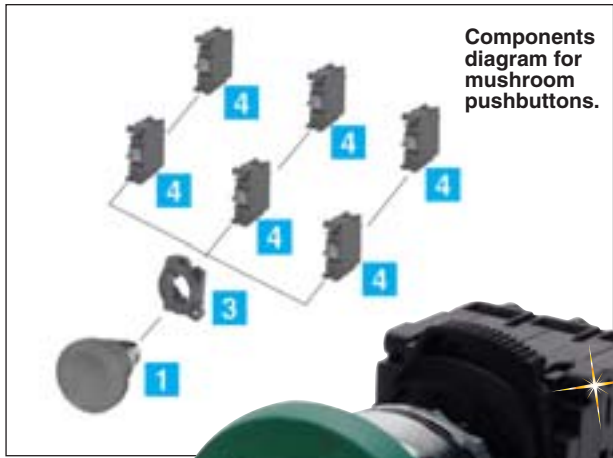
To Order (Specify Model Number)

MOST POPULAR MODELS HIGHLIGHTED!

MODEL NO.	PRICE	DESCRIPTION
Standard Plastic Mushroom, Momentary, Illuminated Pushbuttons (Operators) 1		
OMPBD7P-LMM43	\$14.00	Green-plastic operator with plastic bezel, momentary, 40 mm mushroom
OMPBD7P-LMM44	14.00	Red-plastic operator with plastic bezel, momentary, 40 mm mushroom
Tool-less Mounting Latch 3		
OMPBD7-ALM	\$4.95	Tool-less mounting latch, metal
OMPBD7-ALP	3.85	Tool-less mounting latch, plastic
Power Module 4		
OMPBD7-DOC	\$9.40	Power module incandescent
Lamps, Incandescent 5		
OMPBD7-N130	\$4.40	Incandescent lamp 130 Vac/Vdc
OMPBD7-N157	4.40	Incandescent lamp 24 Vac/Vdc
Lamps, Neon 5		
OMPBD7-N240	\$4.40	Neon lamp 240 Vac
Power Module, Integral LED 6		
OMPBD7-N3R	\$15.00	Red power module, integral LED 24 Vac/Vdc
OMPBD7-N3G	15.00	Green power module, integral LED 24 Vac/Vdc
OMPBD7-N5R	15.00	Power module, integral LED 120 Vac
OMPBD7-N5G	15.00	Power module, integral LED 120 Vac
Contact Blocks 7		
OMPBD7-X01	\$6.00	NC contact block contact block
OMPBD7-X10	6.00	NO contact block contact block
OMPBD7-X10E	6.00	NO early make contact block
OMPBD7-X01L	6.00	NC late break contact block
OMPBD7-X10V	12.00	NO low voltage contact block
OMPBD7-X01V	12.00	NC low voltage contact block

Comes with instruction sheet.

Ordering Example: OMPBD7P-LMM44, red illuminated mushroom pushbutton, OMPBD7-ALP, mounting latch, OMPBD7-DOC, power module, OMPBD7-N157, incandescent lamp 24 Vac/Vdc, OMPBD7-X10, no contact block, \$14 + 3.85 + 9.40 + 4.40 + 6 = \$37.65.



OMPBD7P-MM43, \$12.25, shown smaller than actual size.



OMPBD7P-MT64, \$16, shown larger than actual size.

To Order (Specify Model Number)

MOST POPULAR MODELS HIGHLIGHTED!

MODEL NO.	PRICE	DESCRIPTION
Standard Plastic Mushroom, Momentary, Non-Illuminated Pushbuttons (Operators) 1		
OMPBD7P-MM43	\$12.25	Green-plastic operator with plastic bezel, momentary, 40 mm mushroom
OMPBD7P-MM44	12.25	Red-plastic operator with plastic bezel, momentary, 40 mm mushroom
Tool-less Mounting Latch 3		
OMPBD7-ALM	\$4.95	Tool-less mounting latch, metal
OMPBD7-ALP	3.85	Tool-less mounting latch, plastic
Contact Blocks 4 Note: up to 6 contact blocks can be attached		
OMPBD7-X01	\$6.00	NC contact block contact block
OMPBD7-X10	6.00	NO contact block contact block
OMPBD7-X10E	6.00	NO early make contact block
OMPBD7-X01L	6.00	NC late break contact block
OMPBD7-X10V	12.00	NO low voltage contact block
OMPBD7-X01V	12.00	NC low voltage contact block
Emergency Stop Operators, Twist-to-release (Trigger Action), Non-keyed (Operators) 1		
OMPBD7P-MT34	\$13.00	Plastic operator with plastic bezel 30 mm red twist-to-release
OMPBD7P-MT44	14.00	Plastic operator with plastic bezel 40 mm red twist-to-release
OMPBD7P-MT64	16.00	Plastic operator with plastic bezel 60 mm red twist-to-release
Tool-less Mounting Latch 3		
OMPBD7-ALM	\$4.95	Tool-less mounting latch, metal
OMPBD7-ALP	3.85	Tool-less mounting latch, plastic
Contact Blocks 4 Note: up to 6 contact blocks can be attached		
OMPBD7-X01	\$6.00	NC contact block contact block
OMPBD7-X10	6.00	NO contact block contact block
OMPBD7-X10E	6.00	NO early make contact block
OMPBD7-X01L	6.00	NC late break contact block
OMPBD7-X10V	12.00	NO low voltage contact block
OMPBD7-X01V	12.00	NC low voltage contact block
OMPBD7-X01S	15.00	GCB, guardian block

Comes with instruction sheet.
Ordering Example: OMPBD7P-MT44, 40 mm operator, OMPBD7-ALP, mounting latch, OMPBD7-X10, no contact block, \$14 + 3.85 + 6 = \$23.85.



SPECIFICATIONS FOR SERIES OMPBD7— HEAVY DUTY/OIL TIGHT



Front-of-Panel (Operators) ¹		
DESCRIPTION	PLASTIC (OMPBD7P)	METAL (OMPBD7M)
MECHANICAL RATINGS		
Vibration (assembled to panel)	[G] Tested at 10 ...2000 Hz, 1.52 mm displacement (peak-to-peak) max/10 G max for 3 hr duration, no damage	
Shock	[G] Tested at 1/2 cycle sine wave for 11 ms; no damage at 100 G	
Degree of Protection ²	UL Type 3/3R/4/4X/12/13 (IP65/66)	UL Type 3/3R/4/12/13 (IP65/66)
Mechanical Durability per EN 60947-5-1 (Annex C)	10,000,000 Cycles 1,000,000 Cycles 500,000 Cycles 300,000 Cycles 100,000 Cycles	Momentary push buttons, momentary mushroom Multi-function, Selector Switch, Key Selector Switch, Selector Jog Non-illuminated Push-Pull E-Stop Twist-to-Release E-Stop, Illuminated Push-Pull E-Stop, Maintained Push Buttons, selector switches Potentiometer, Toggle Switch
Operating Forces (typical with one contact block)	[N] Flush/extended = 5N; E-stop = 36N; Mushroom = 9N	
Operating Torque (typical application with one contact block)	[N·m] Selector switch = 0.25 N·m (2.2 lb-in.)	
Mounting Torque	[N·m] 1.7 N·m (15 lb-in)	4.4 N·m (40 lb-in)
MECHANICAL RATINGS		
Temperature Range (operating) ³	[°C] -25 to 70°C (-13 to 158°F)	
Temperature range (short-term storage)	[°C] -40 to 85°C (-40 to 185°F)	
Humidity	[%] 50...95% RH from 25 to 60°C (77 to 140°F) per: Procedure IV of MIL-STD-810C, Method 507.1 cycling test	

Notes:

1 Performance data given in this publication is provided only as a guide for the user in determining suitability and do not constitute a performance warranty of any kind. Such data may represent the results of accelerated testing at elevated stress levels, and the user is responsible for correlating the data to actual application requirements. ALL WARRANTIES AS TO ACTUAL PERFORMANCE, WHETHER EXPRESS OR IMPLIED, ARE EXPRESSLY DISCLAIMED.

2 Momentary mushroom operators are IP65, multi-function operators have no Type 13 rating. Plastic operators with keys have no Type 4X rating.

3 Operating temperatures below 0°C (32°F) are based on the absence of freezing moisture and liquids, UL recognized to 55°C (131°F) - incandescent module, max 40°C (104°F).



Back-of-Panel Components ¹				
DESCRIPTION	PLASTIC (OMPBD7P)		METAL (OMPBD7M)	
ELECTRICAL RATINGS				
Standard Contact Block Ratings	A600, Q600, 600 Vac, AC15, DC 13 to EN 60947-5-1 and UL 508, 17V, 5mA min			
Low Voltage Contact Block Ratings ⁴	5V, 1mA DC min. C300, R150, AC 15, DC 13 to EN 60947-5-1 and UL 508			
LED Module Ratings	Nominal Voltage	Range	Current Draw	Frequency
	24 Vac	0...29 Vac	31 mA	50/60 Hz
	24 Vac	10...30 Vac	24 mA	DC
	120 Vac	70...132 Vac	25 mA	50/60 Hz
	240 Vac	180...264 Vac	22 mA	50/60 Hz
Thermal Current	[A]	10 A max enclosed (40°C ambient) to UL 508, EN 60947-5-1		
Wire Capacity Screw terminal ⁵ Spring-clamp terminal	[AWG]	#18...12 AWG (0.75...2.5 mm ²) Max (2) #14 AWG or (1) #12 AWG		
	[AWG]	#18...14 AWG (0.75...1.5 mm ²)		
Recommended Tightening Torque on Screw Terminals	[N]	0.7...0.9 N • m (6...8 lb-in)		
Insulation Voltage	[U _i]	U _i = 690 V (screw terminal) U _i = 300 V (screwless terminal)		
Dielectric Strength (Min)	[V]	2500 V for one minute		
External Short Circuit Protection Standard blocks Low voltage contact blocks	10 A type gL/gG cartridge fuse to EN 60269-2-1 or gN (Class J to UL 248-8 or Class C to UL 248-4)			
	6 A type gL/gG cartridge fuse to EN 60269-2-1 or gN (Class J to UL 248-8 or Class C to UL 248-4)			
Electrical Shock Protection	Finger-safe conforming to IP2X			
MECHANICAL RATINGS				
Vibration (assembled to panel)	[G]	10...2000 Hz, 1.52 mm displacement (peak-to-peak) max/10 G max 6 hr		
Shock	[G]	Tested at 1/2 cycle sine wave for 11 ms and no damage at 100 G max		
Contact durability per EN 60947-5-1 (Annex C)	10,000,000 cycles			
Contact Operation	NO	Slow double make and break		
	NC	Slow double make and break - positive opening		
	NOEM	Double break / double make / early make		
	NCLB	Double break / double make, late break - positive opening		
	NCEB	Double break / double make, early break - positive opening		
Push Button Travel to Change Electrical State	NC and NOEM	1.5 mm (0.060 in)		
	NO and NCLB	2.5 mm (0.1 in)		
Operating Forces (Typical)	[N]	3.4 N: each single circuit contact block 5...6.5 N: each dual circuit contact block		

Notes:

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⁴ Low voltage contacts are recommended for applications below 17 V, 5 mA.

⁵ Wires less than #18 (0.75 mm²) may not hold in terminal securely.

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• Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

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• Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters