

ILLUMINATED ALTERNATE ACTION PUSHBUTTONS

LP5
ILLUMINATED
PUSHBUTTONS

ALTERNATE ACTION, LED ILLUMINATED & SEALED

Front Mount



Raised Dome



The LP5 offers the same rugged, sealed construction as the proven P5 series with the added benefit of reliable LED illumination. It is a precision snap-action switch designed for use in off-highway, material handling, industrial controls, marine, medical and other demanding Commercial applications. Choose from the standard mounting styles and electrical ratings, or contact us for custom configurations.

Now you can design panels with both alternate and momentary action switches and have uniform panel appearance. The OTTO LP5 series features alternate action in the same pushbutton and housing configurations as the OTTO momentary LP3 series.

Push and the LP5 series switch turns "on." Push again and the LP5 switch turns "off." Positive tactile feedback is featured so the operator is clearly aware the switch mode has been actuated. The button returns to the original position after each actuation.

Features:

- **Watertight to IP68S; moistureproof & dusttight to IP64**
- **LED lighted with the ability to accommodate 2, 6, 12 & 24VDC power & includes reverse voltage protection**
- **Tall & dome style buttons in translucent white, red, amber, green and blue permitting sublimated & pad printed legends**
- **Quick disconnect terminals**
- **15/32" & 5/8" thread, press fit & dome case options**
- **RoHS compliant**

Standard Characteristics/Ratings:

ELECTRICAL RATINGS:

Load	Sea Level @ 28VDC or 115VAC
Resistive	5A
Inductive	3A
Lamp	1A
Motor	3A
DWV	1000Vrms through switch contacts only
Logic Level	10mA @ 5VDC

Electrical Life: Standard 25,000 cycles, Logic Level 200,000 cycles

LIGHTING:

Light Source Voltage (DC)	Typ. Forward Voltage (DC)	Voltage Max (DC)
2	1.9 to 3.3 (dep. on color)	2.5 to 4 (dep. on color)
6	6	8
12	12	14.5
24	24	28.6

Mechanical Life: 200,000 cycles

Seal: Unsealed, IP64 or IP68S

Operating Temp Range: -55°C to +85°C

Operating Force: 3.0 lbs. +1.0/-0.5 lb.

Total Travel: 0.180 inches max

Overtravel: 0.012 inches min

MATERIALS:

Case: Anodized aluminum alloy

Button: Thermoplastic

Mounting Hardware: Hex nut, lockwasher, and panel gasket (watertight only)

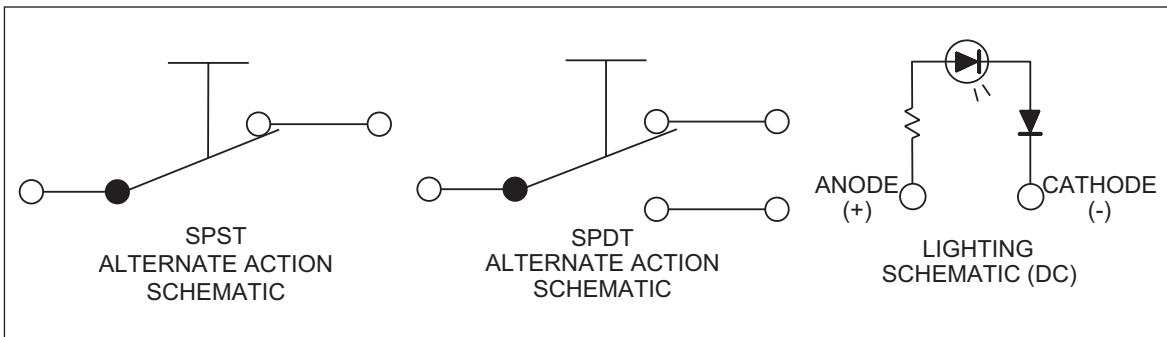
LP5 PART NUMBER CODE

LP5	-	X		X	X	X	X	-	XX
Case Style	Circuit Rating	Light Source Type w/ Rev. Pol Protection	Seal Level	Case Color	Button Color	Legend Style	STOP HERE for illuminated switches without legends.		
E. Exposed Dome F. Flush Dome R. Raised Dome 1. Press Fit Mount 3. 5/8" Thread Front Mount 4. 15/32" Thread Rear Mount 6. 5/8" Thread Rear Mount	1. SPST/Std. 2. SPDT/Std. 3. SPST/Logic Level 4. SPDT/Logic Level	A. 2V Red LED* B. 2V Green LED* C. 2V Amber LED* D. 6V Red LED E. 6V Green LED F. 6V Amber LED G. 12V Red LED H. 12V Green LED J. 12V Amber LED K. 24V Red LED L. 24V Green LED M. 24V Amber LED N. 2V Blue LED* P. 6V Blue LED Q. 12V Blue LED R. 24V Blue LED S. 2V Deep Green LED* T. 6V Deep Green LED U. 12V Deep Green LED V. 24V Deep Green LED	1. Unsealed 2. Dusttight 3. Watertight	1. Silver 2. Black	A. Amber, Translucent (use Amber LED) R. Red, Translucent (use Red LED) W. White, Translucent (use Green LED) G. Green, Translucent (use Green LED) B. Blue, Translucent (use Blue LED)	Refer to Legend Table for legend codes in Appendix. Legends will be printed in white on amber, red, green, and blue buttons and in black on white buttons.			

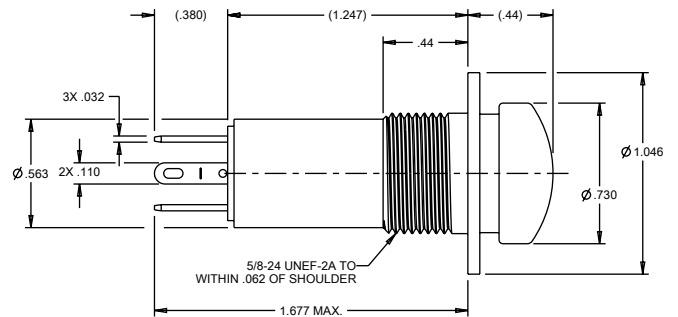
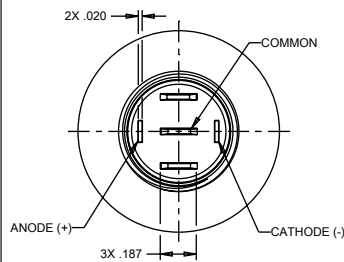
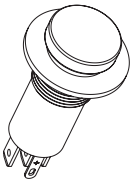
* The "2 volt" switches are intended to have a resistor added in series into the lighting circuit by the customer. See appendix for complete voltage/ratings table.

For super bright LEDs, contact factory.

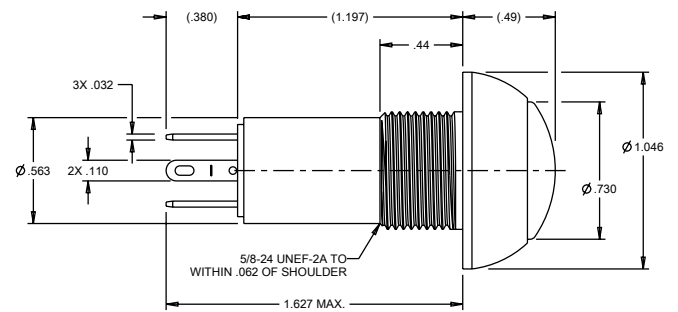
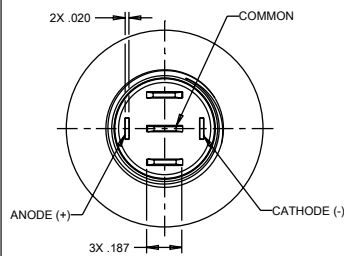
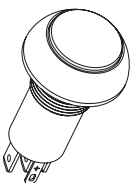
ALTERNATE ACTION, LED ILLUMINATED & SEALED



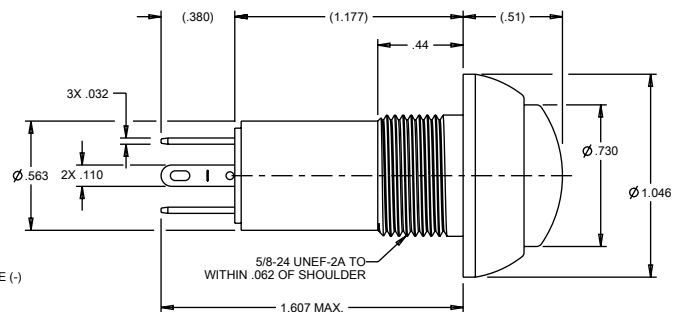
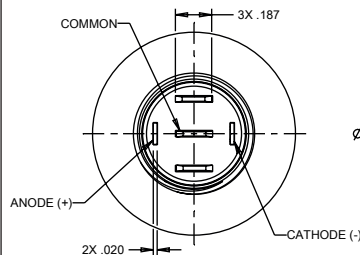
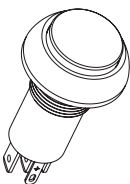
LP5-EXXXXX
Alternate Action, Exposed Dome Button



LP5-FXXXXX
Alternate Action, Flush Dome Button



LP5-RXXXXX
Alternate Action, Raised Dome Button



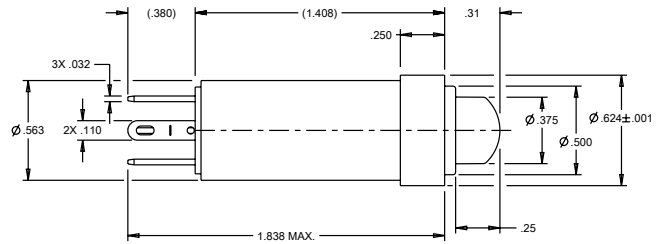
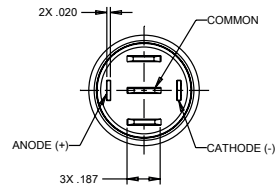
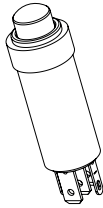
ILLUMINATED ALTERNATE ACTION PUSHBUTTONS

LP5
ILLUMINATED
PUSHBUTTONS

ALTERNATE ACTION, LED ILLUMINATED & SEALED

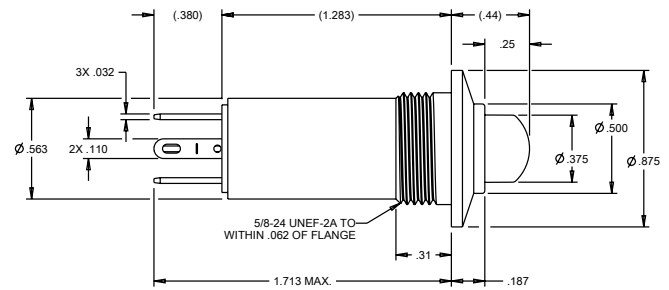
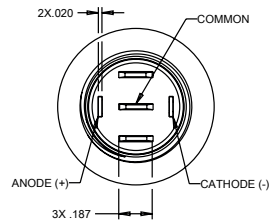
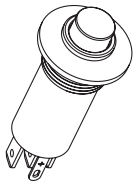
LP5-1XXXXX

Alternate Action, Press Fit Mount



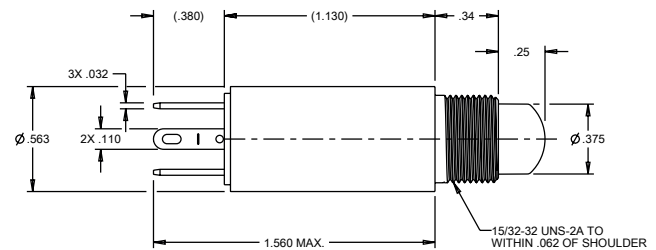
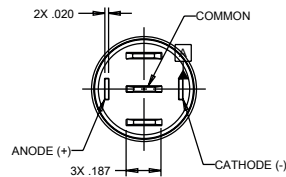
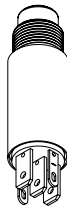
LP5-3XXXXX

Alternate Action, 5/8" Threaded Front Mount



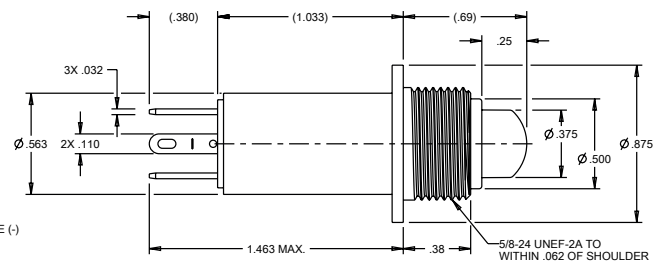
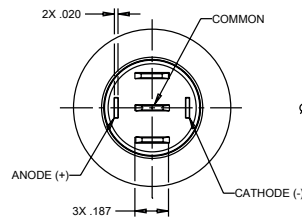
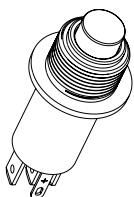
LP5-4XXXXX

Alternate Action, 15/32" Threaded Rear Mount



LP5-6XXXXX

Alternate Action, 5/8" Threaded Rear Mount



NOTE:

For indicator light only,
see LPL indicator light pages 153-155.

STANDARD LEGENDS PER SAE

STANDARD LEGENDS PER SAE SPECIFICATIONS

STANDARD LEGENDS PER SAE SPECIFICATIONS					
A1		ANCHOR	K2		UNLOCK
B1		BATTERY	L1		LIGHT
B2		ELECTRIC POWER	L2		MASTER LIGHTING SWITCH
C1		AC/COOLING SYSTEMS	L3		HEADLIGHTS
C2		DEHUMIDIFIER	L4		HEADLIGHTS-LOW / DIPPED BEAM
C3		HEATER/INTERIOR HEATING	L5		HEADLIGHTS-HIGH / UPPER BEAM
D1		WINDSHIELD DEFROSTER	L6		PARKING LIGHT
D2		REAR WINDOW DEFROSTER	L7		WORK LAMP
D3		MIRROR DEFROSTER	L8		WORK LAMP
E1		ENGINE/START	L9		INTERIOR DOME LIGHT
E2		ENGINE/STOP	M1		BEACON
E3		ON/START	M2		HAZARD/POSITION LIGHTS
E4		OFF/STOP	M3		CLEARANCE LIGHTS
E5	ON	ON	M4		SIDE MARKER LIGHT
E6	OFF	OFF	M5		RUNNING LIGHTS (UNDER POWER)
E7		ENGINE ELECTRIC PREHEAT	M6		ANCHOR LIGHT
E8		ENGINE-GAS INJECTION	M7		RUNNING/ANCHOR LIGHTS
F1		FRONT FOG LIGHTS	M8		SEARCH LIGHT
F2		REAR FOG LIGHTS	M9		LEFT TURN SIGNAL
G1		FUEL	MA		RIGHT TURN SIGNAL
H1		HORN	P1		BILGE PUMP #1
H2		HORN REAR	P2		BILGE PUMP #2
K1		LOCK	P3		BILGE PUMP #3
			P4		BILGE PUMP
P5		BILGE BLOWER	R1		LIFT
R1		LIFT	R2		LOWER
R2		LOWER	R3		UP
R3		UP	R4		DOWN
R4		DOWN	R5		RIGHT
R5		RIGHT	R6		LEFT
R6		LEFT	R7	FWD	FORWARD
R7	FWD	FORWARD	R8	REV	REVERSE
R8	REV	REVERSE	S1		RADIO
S1		RADIO	S2		MUTE
S2		MUTE	T1		FAST
T1		FAST	T2		SLOW
T2		SLOW	T3		TRIM TAB / TRIMMING OPERATION
T3		TRIM TAB / TRIMMING OPERATION	T4		TRANSMISSION
T4		TRANSMISSION	V1		VENTILATING / AC FAN
V1		VENTILATING / AC FAN	W1		WINDSHIELD WIPER
W1		WINDSHIELD WIPER	W2		WINDSHIELD-WASHER
W2		WINDSHIELD-WASHER	W3		WINDSHIELD-WASHER/WIPER
W3		WINDSHIELD-WASHER/WIPER	W4		REAR WINDOW WIPER
W4		REAR WINDOW WIPER	W5		REAR WINDOW-WASHER
W5		REAR WINDOW-WASHER	W6		REAR WINDOW-WASHER/WIPER
W6		REAR WINDOW-WASHER/WIPER	ZZ		NO LEGEND
ZZ		NO LEGEND			

For legends not shown, please consult an OTTO representative.

LED VOLTAGE/CURRENT RATINGS TABLE

ROCKER AND ROTARY SWITCH VOLTAGE/CURRENT RATINGS TABLES

K1, K2, K3P and K4 LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LIGHT SOURCE COLOR	FORWARD CURRENT	TYPICAL FORWARD/ NOMINAL VOLTAGE	MAX. FORWARD VOLTAGE
6 VDC INCANDESCENT	WHITE	.2 AMPS	6 VDC	8 VDC
12 VDC INCANDESCENT	WHITE	.08 AMPS	12 VDC	14 VDC
24 VDC INCANDESCENT	WHITE	.04 AMPS	24 VDC	28 VDC
125 VAC NEON	AMBER	1.9 mA	125 VAC	125 VAC
250 VAC NEON	AMBER	1.9 mA	250 VAC	250 VAC
2 V LED PRODUCTS*	RED	20 mA	1.9 VDC	2.5 VDC
	GREEN	20 mA	2.15 VDC	2.5 VDC
	AMBER	20 mA	1.95 VDC	2.5 VDC
	BLUE	20 mA	3.5 VDC	4.0 VDC
6 V LED PRODUCTS	SEE CHART	20 mA	6 VDC	8 VDC
12 V LED PRODUCTS	SEE CHART	20 mA	12 VDC	14 VDC
24 V LED PRODUCTS	SEE CHART	20 mA	24 VDC	28 VDC

K3/K5 LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LIGHT SOURCE COLOR	FORWARD CURRENT	TYPICAL FORWARD/ NOMINAL VOLTAGE	MAX. FORWARD VOLTAGE
6 VDC INCANDESCENT	WHITE	.2 AMPS	6 VDC	8 VDC
12 VDC INCANDESCENT	WHITE	.08 AMPS	12 VDC	14 VDC
24 VDC INCANDESCENT	WHITE	.04 AMPS	24 VDC	28 VDC
125 VAC NEON	AMBER	1.9 mA	125 VAC	125 VAC
250 VAC NEON	AMBER	1.9 mA	250 VAC	250 VAC
2 V LED PRODUCTS*	RED	20 mA	2.0 VDC	2.5 VDC
	GREEN	20 mA	2.2 VDC	2.6 VDC
	AMBER	20 mA	2.1 VDC	2.5 VDC
6 V LED PRODUCTS	SEE CHART	20 mA	6 VDC	8 VDC
12 V LED PRODUCTS	SEE CHART	20 mA	12 VDC	14 VDC
24 V LED PRODUCTS	SEE CHART	20 mA	24 VDC	28 VDC

R2 LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LIGHT SOURCE COLOR	FORWARD CURRENT	TYPICAL FORWARD/ NOMINAL VOLTAGE	MAX. FORWARD VOLTAGE
2 V LED PRODUCTS*	RED	20 mA	2.0 VDC	2.5 VDC
	GREEN	20 mA	2.2 VDC	2.6 VDC
	AMBER	20 mA	2.1 VDC	2.5 VDC
6 V LED PRODUCTS	SEE CHART	20 mA	6 VDC	8 VDC
12 V LED PRODUCTS	SEE CHART	20 mA	12 VDC	14 VDC
24 V LED PRODUCTS	SEE CHART	20 mA	24 VDC	28 VDC

*Intended for use with external resistor. The "2 volt" switches are intended to have a resistor added in series into the lighting circuit by the customer. To determine the approximate value of the resistor, use the equation below:

$$\text{RESISTOR SIZE} = \frac{\text{POWER SUPPLY VOLTAGE} - \text{LED FORWARD VOLTAGE}}{\text{LED FORWARD CURRENT}}$$

LED VOLTAGE/CURRENT RATINGS TABLE

ILLUMINATED PUSHBUTTON SWITCH & INDICATOR LIGHTS VOLTAGE/CURRENT RATINGS TABLES

LP3, LP5 AND LPL SERIES

LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR	FORWARD CURRENT	TYP. FORWARD VOLTAGE (DC)	MAX. FORWARD VOLTAGE DC
2V* PRODUCTS	RED	20 mA	1.9V	2.5V
	GREEN	20 mA	2.2V	2.6V
	AMBER			
	BLUE	20 mA	3.3V	4V
	DEEP GREEN			
6V PRODUCTS	ALL COLORS	20 mA	6V	8V
12V PRODUCTS	ALL COLORS	20 mA	12V	14.5V
24V PRODUCTS	ALL COLORS	20 mA	24 V	28.6 V

LP3S

LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR	FORWARD CURRENT	TYP. FORWARD VOLTAGE	MAX. FORWARD VOLTAGE
2V* PRODUCTS	RED	20 mA	2 V	2.5 V
	GREEN			
	AMBER			
	BLUE	20 mA	3.2 V	4 V
	DEEP GREEN			
12V PRODUCTS	ALL COLORS	20 mA	12V	14V
24V PRODUCTS	ALL COLORS	20 mA	24 V	28.6 V

LP7-D and LP9 SERIES

LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR, WAVELENGTH (nm)	FORWARD CURRENT	TYP. FORWARD VOLTAGE	MAX. FORWARD VOLTAGE
2V LIGHTPIPE STYLE	RED (631)	20 mA	2V	2.4V
	GREEN (525)	20 mA	3.2V	3.6V
	AMBER (591)	20 mA	2.1V	2.4V
	BLUE (470)	20 mA	3.3V	3.8V
	WHITE	5 mA	2.9V	3.15V
2V, TRANSLUCENT FULLY ILLUMINATED STYLE	RED (630)	20 mA	1.95V	2.5V
	GREEN (525)	20 mA	3.3V	4.1V
	AMBER (601)	20 mA	2.1V	2.5V
	BLUE (465)	20 mA	3.3V	4V
	WHITE	5 mA	2.85V	3.1V
12V ALL PRODUCTS	ALL COLORS, SAME AS 2V	(20 mA)	12.0V	14.0V

LP9L SERIES

LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR, WAVELENGTH (nm)	FORWARD CURRENT	TYP. FORWARD VOLTAGE	MAX. FORWARD VOLTAGE
2V PRODUCTS	RED (631)	20 mA	2V	2.4V
	GREEN (525)	20 mA	3.2V	3.6V
	AMBER (591)	20 mA	2.1V	2.4V
	BLUE (470)	20 mA	3.3V	3.8V
	WHITE	5 mA	2.9V	3.15V
12V PRODUCTS	ALL COLORS, SAME AS 2V	(20 mA)	12.0V	14.0V

*Intended for use with external resistor. The "2 volt" switches are intended to have a resistor added in series into the lighting circuit by the customer. To determine the approximate value of the resistor, use the equation below:

$$\text{RESISTOR SIZE} = \frac{\text{POWER SUPPLY VOLTAGE} - \text{LED FORWARD VOLTAGE}}{\text{LED FORWARD CURRENT}}$$

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

OTTO:

[LP5-4000001](#) [LP5-A000004](#) [LP5-E000001](#) [LP5-F000011](#) [LP5-E2V32W](#) [LP5-R2H22G](#) [LP5-R2P32W](#) [LP5-R2Q22B](#)
[LP5-R2T32W](#) [LP5-R1K32R-H1](#) [LP5-R1L32W-T1](#) [LP5-R1M32A](#) [LP5-R2D32W](#) [LP5-R2E32W](#) [LP5-R2F32W](#) [LP5-](#)
[31K32W](#) [LP5-31Q12W-C1](#) [LP5-41Q12W-C1](#) [LP5-42G22R](#) [LP5-42J22A](#) [LP5-61Q22W](#)