

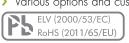
CODED SWITCH TYPE 07PL



MAIN FEATURES

PUSH BUTTON FUNCTION

- > Integrated push-button function
- > Push-button forces up to 14 N
- > 10 positions BCD coding with End-Stop
- 16 positions Hex or Gray coding with End-Stop
- > Shorting or non-shorting
- > For rugged environments
- > Switching torque up to 3.5 Ncm
- > Gold plated contacts
- > THT (reflow version on request)
- > Optional IP68 front panel sealing (up to 5 bar)
- > Operating temperature range: -40 to +85°C
- Various options and customizations



PRODUCT VARIETY

- Shaft length
- Shorting or non-shorting
- Push-button force
- Hex or Gray coding; BCD coding
- Switching torque: 3.2 or 3.5 Ncm
- IP60 or IP68 front panel sealing

TYPE 07PL



POSSIBLE CUSTOMIZATIONS

- Shaft dimension and shape
- Bushing, mounting
- IP sealing
- Push-button force
- Switching torque
- BCD-Coding

TYPICAL APPLICATIONS

- Frequency and channel selection for two-way radios
- Target aiming devices
- Aircraft transponders
- Medical equipment
- Industrial automation
- Cockpit applications

¹ PREFERENCE TYPES SELECTION CHART

¹ For other types/options, see type key.

STANDARD SHAFT LENGTH, IP68; HEX NUT SUPPLIED, SHORTING

CODING	POSITIONS/ INDEXING ANGLES	TORQUE	PUSH-BUTTON FORCE	PART NUMBER
Hex	16 (0-F) / 22.5°	3.2	3N	07PL-1530-113S
			5N	07PL-2530-113S
Hex compl.	16 (0-F) / 22.5°	3.2	3N	07PL-1630-113S
			5N	07PL-2630-113S
Gray	16 (0-F) / 22.5°	3.2	3N	07PL-1730-113S
			5N	07PL-2730-113S



DATA SHEET CODED SWITCHES TYPE 07PL



Switching mode: Contact resistance (new condition): Stainless steel Max. switching values: So mCI Gor min. © 500 VDC Max. switching / Dracking capacity: 5 VA Switching values: 42 V (resistave load) max. Switching values: Switching values: 1500 VDC during 60 seconds (pins to pins, pins to housing) MATERIAL DATA Shaft: Stainless steel Housing: Tinc diseast, fiber enforced high performance plastic Nut: Brass Contact system: CuBe alloy, AuCo plated (finat gold) Soldering leads: CuBe alloy, Fin plated Orings: NBR (hitriel), 70 shore ENVIRONMENTAL DATA ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/ 30%) Push button switch travel: 2 ms max. 2 ms max. Push button switch life: 200'000 actuations min. ELECTICAL DATA Load carrent: 1 0 max. Pealeder (withstanding valuege to housing/shaft: 5 000 Even (withstanding valuege) Soldering (controlled bout charles on housing/shaft: 5 000 Even (withstanding valuege to housing/shaft: Soldering (controlled bout charles on housing/shaft: Soldering (controlled bousing/shaft: Soldering (controlled board) max. Soldering (controlled board) ma	MECHANICAL DATA			
Switching torque [new condition]: BCD, Hex or Gray: 2.2 or 3.5 Non [v/· 25%] Bottonen Dool Mile: 10000 cycles min. End-step position: Between Roso and Pos.F End-step position: Between Roso and Pos.F End-step position: BCD, Hex or Gray: 35 Non min. Fostering broque of nut: 100 Non mox. ELECTRICAL DATA Conding/Aurlyt: Switching mode: Shorting or non-shorting Switching work condition]: 10 GR inin. 8 950 VPC Max. switching/breeking capacity: 5 VA Switching unrant: 0.2 A [resistive load] max. Switching unrant: Switching voltage: 1500 VPC during 60 seconds (pins to pins, pins to housing) MATERIAL DATA Standard DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Standard DATA S	Resolution:	Hex or Gray: 16 positions max. (22.5° indexing); BCD: 10 positions max. (36° indexing)		
Rotational life: 10'000 cycles min. End-stop passinon: Between Pac 0 and Pac F. End-stop passinon: Between Pac 0 and Pac F. End-stop passinon: Both Pack Storm min. Fostering forque of mut: 100 Nom max. *** ***ELECTRICAL DATA** *** Coding/aciputat: BCD, BCD complementary, Hex, Hex complementary or Gray (shorting or non-shorting) ***Switching made: Shorting or non-shorting ***Coding/aciputati: BCD, BCD complementary, Hex, Hex complementary or Gray (shorting or non-shorting) ***Switching made: Shorting or non-shorting ***Coding/aciputati: So Om 2 ***Insulation resistance (new condition): 1 GR min. 9 500 VDC ***Mox. switching/breaking capacity: 5 VA ***Switching current: 0.2 A (resistive local) max. ***Switching voltage: 1.50 VDC during 60 seconds (pins to pins, pins to housing) ***MATERIAL DATA** ***Switching voltage: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***MATERIAL DATA** ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***MATERIAL DATA** ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***MOXING NUMERIAL DATA** ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***MOXING NUMERIAL DATA** ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***MOXING NUMERIAL DATA** ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***MOXING NUMERIAL DATA** ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins to housing) ***Passing: 2.50 VDC during 60 seconds (pins to pins, pins	Push-button force:	3, 5, 10, 14 N		
End-stop position: Between Pos. 0 and Pos. F End-stop terregits: BCD, Hex or Gray: 35 Norm min. Footening lorque of nut: 100 Norm max. ELECTRICAL DATA Coding/output: BCD, BCD complementary. Hex, Hax complementary or Gray [shorting or non-shorting] Switching mode: Shorting or non-shorting Coding/output: DO Norm max. Switching mode: Shorting or non-shorting Contact resistance (new condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC Insulation resistance (pew condition): 1 GO min. © 500 VDC during 60 seconds (pins to pins, pins to housing) Insulation resistance (pew condition): 1 GO min. © 500 VDC during 60 seconds (pins to pins, pins to housing) Insulation resistance (pew condition): 1 GO min. © 500 VDC during 60 seconds (pins to pins, pins to housing) Insulation resistance (pew condition): 1 GO min. © 500 VDC during 60 seconds (pins to pins, pins to housing) Insulation resistance (pew condition): 1 GO min. © 500 VDC during 60 seconds (pins to pins, pins to housing) (pins to housing) (Switching torque (new condition):	BCD, Hex or Gray: 2.2 or 3.5 Ncm (+/- 25%)		
End stop strength: BCD, Hex or Gray: 35 Ncm min. Frathering torque of nut: 100 Ncm max. ELECTRICAL DATA Coding/output: BCD, BCD complementary, Hax, Hex complementary or Gray [shorting or non-shorting] Switching mode: Shorting or non-shorting Control resistance [new condition]: 50 m () Insulation resistance [new condition]: 50 m () Insulation resistance [new condition]: 50 m () Insulation resistance [new condition]: 22 A [resistave load] max. Switching yourant: 22 A [resistave load] max. Switching youltage: 1500 VDC during 60 seconds [pins to pins, pins to housing] MATERIAL DATA Shaft: Storinless steel Housing: Zinc diseast, filter enforced high performance plastic Not: Brass Costoci system: Cube cilloy, AuCo plated [hard gold]) Code cilloy, Sale (pins) Code cilloy (pins	² Rotational life:	10'000 cycles min.		
ELECTRICAL DATA Coding/output: BCD, BCD complementary, Hex, Hex complementary or Gray (shorting or non-shorting) Switching mode: Shorting or non-shorting Controlled resistance (new condition): 5 0 m C Insulation resistance (new condition): 1 G m min. © 500 VDC Max. switching/bracking copacity: 5 VA Switching dronous copacity: 5 VA Switching dronous copacity: 5 VA Switching variety or Complementary or Gray (shorting or non-shorting) Insulation resistance (new condition): 1 G m min. © 500 VDC Max. switching bracking copacity: 5 VA Switching variety or Complementary or Gray (shorting or non-shorting) Max. switching bracking copacity: 5 VA Switching variety or Complementary or Complementary or Gray (shorting or non-shorting) MATERIAL DATA Shaft: 1500 VDC during 60 seconds (pins to pins, pins to housing) MATERIAL DATA Shaft: Storinless steel Housing: 2 Zinc discast, filter enforced high performance plastic Nut: Brass Control system: Cube elloy, AuCo plotted (ford gold) Soldering leads: Cube elloy, AuCo plotted (ford gold) S	End-stop position:	Between Pos.O and Pos.F		
ELECTRICAL DATA Coding/cupt: BCD, BCD complementary, Hex, Hex complementary or Gray [shorting or non-shorting] Switching mode: Shorting or non-shorting Contour resistance [new condition]: 1 GG min. @ 500 VDC Max. switching/breoking capacity: 5 VA Working current: 0,2 A (resistive local) max. Switching voltage: 42 V [resistive local] max. Switching voltage: 42 V [resistive local] max. Delectric withstanding voltage: 1500 VDC during 60 seconds (pins to pins, pins to housing) MATERIAL DATA Short: Strainbess steel Housing: Zinc disecust, fiber enforced high performance plastic Not: Boss Contour system: CuBe allay, AuCo pland (hard gold) Codering leads: CuBe allay, AuCo pland (hard gold) Codering leads: CuBe allay, the provided of the gold of	End-stop strength:	BCD, Hex or Gray: 35 Ncm min.		
Coding/output: BCD, BCD complementary, Hex, Hex complementary or Gray (shorting or non-shorting) Switching mode: Shorting or non-shorting Shorting or non-shorting Contact resistance (new condition): 1 GΩ min. € 500 VDC Max. switching/breaking capacity: 5 VA Switching current: 0.2 A (resistive local) max. Switching yologo: 1500 VDC during 60 seconds (pins to pins, pins to housing) MATERIAL DATA Shaft: Stainless steel Housing: Zinc disecust, liber enforced high performance plastic Nut: Bross Contact system: Cube elloy, AuCo plated (hard gold) Code elloy, In plated Oring: NBR (hitriel), 70 shore ENVIRONMENTAL DATA Operating/shorage temperature range: -40 to +85°C max. Pisacling: (Pisacling: Pisacling: Pisacling	Fastening torque of nut:	100 Ncm max.		
Switching mode: Shorting or non-shorting Contact resistance (new condition): I GO min. @ 500 VDC Max. switching/brooking capacity: 5 VA Switching current: 0 2. A feetistive load) max. Switching vallage: 1500 VDC during 60 seconds (pins to pins, pins to housing) MATERIAL DATA Shoft: Stainless steel Housing: Zinc discost, fiber enforced high performance plastic Nut: Brass Contact system: CuBe alloy, AuCa plated (part) Soldering leads: Crings: NBR (nitriel), 70 shore ENVIRONMENTAL DATA ADERITION (Storage temperature range: Peedings/storage temperature range: 10 Gmm, max. @ 10 to 2000 Hz Floramobility: U194 HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (4-30%) Push button actuation force (new condition): 2 ms max. Push button switch frow: 2 ms max. Push button actuation force (new condition): 3, 5, 10, 14 N (4-30%) Push button actuation force (new condition): 10 mx. max. (resistive load, 15 VDC max. voltage) Contact system: 10 mx. max. Push button switch frow: 2 ms max. Contact system colouring sime: 2 ms max. Contact system colouring so bousing/shaft: SOUDERING CODDITIONS Reflew Profile (to comply with PC/EDEC JSTDOXE) Hand soldering: 280°C max. during 2 sec max.	ELECTRICAL DATA			
Centact resistance (new condition): 50 mΩ Insulation resistance (new condition): 1 GΩ min. © 500 VDC Mox. switching/breaking capacity: 5 VA Switching voltage: 0.2 A (resistive load) max. Switching oblage: 42 V (resistive load) max. Dietectric withstanding voltage: 1500 VDC during 60 seconds (pins to pins, pins to housing) MATERIAL DATA Shaft: Stainless steel Housing: Zinc disecast, fiber enforced high performance plastic Nut: Brass Contact system: Cube alloy, NuCo plated (foord gold) Cortage: NBR (nitrie), 70 shore ENVIRONMENTAL DATA Operating/Atorage temperature range: -40 to +85°C max. P sealing: IP60, optional IP68 (2 bar, 1h) shaft/front panel sealing (5 bar, 4h on request) Vibration: 10 G _m max. @ 10 to 2000 Hz Hammability: U194 HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button activation force (new condition): 9.5 (γ-0.2) mm Residual push button activation force (end of life): 90% kyp. 2 hush button switch life: 200°0000 actuations min. ELECTRICAL DATA Load current: 10 mAx max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 Ω max. Entirely Contact bousing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SolDer Note Contact bousing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SolDer Note Contact bousing shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301)	Coding/output:	BCD, BCD complementary. Hex, Hex complementary or Gray (shorting or non-shorting)		
Insulation resistance (new condition): 1 G M min. © 500 VDC Max. switching current: 0.2 A (resistive locad) max. Switching current: 1500 VDC during 60 seconds (pins to pins, pins to housing) MATERIAL DATA Shaft: Stainless steel Housing: Zinc diseast, fiber enforced high performance plastic Nut: Brass Cube alloy, AuCo plated (flord gold) Cortact system: Cube alloy, AuCo plated (flord gold) Cortact system: Cube alloy, In plated Orings: NBR (nitrile), 70 shore ENVIRONMENTAL DATA Operating/storage temperature range: -40 to +85°C max. IP Seoling: IP Seoling: IP Go, eptimal [168 (2 bar, 1h) shaft/front panel sealing (5 bar, 4h on request) Vibration: ID G_m max. @ 10 to 2000 Hz Flommability: UP4-HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button actuation force (new condition): 90% typ. Push button actuation force (new condition): 2 ms max. Lead Current: 10 mA max. (resistive load, 15 VDC max. vehage) Contact bouncing time: 2 ms max. Contact esistance: 1 0 max. Sellow Profile (to comply with IPC/EDEC L STD.02C) Sellow Profile (to comply with IPC/EDEC L STD.02C) SolDERING CONDITIONS Relico Profile (to comply with IPC/EDEC L STD.02C) Relico Profile (to comply with IPC/EDEC L STD.02C) SolDERING CONDITIONS	Switching mode:	Shorting or non-shorting		
Max. switching/breaking capacity: Switching voltage: 0.2 A (resistive load) max. Switching voltage: 1500 VDC during 60 seconds (pins to pins, pins to housing) MATERIAL DATA Shaft: Stainless steel Housing: Zinc diseast, fiber enforced high performance plastic Nut: Brass Contact system: Coute alloy, AuCo plated (floar gold) Soldering aloads: Cube alloy, tin plated O-rings: NBR (nitrile), 70 shore ENVIRONMENTAL DATA Performance provided (Party of the performance) ENVIRONMENTAL DATA Operating/storage temperature range: -40 to +85°C max. Peding: Ped, optional P68 (2 bar, 1h) shaft/front panel sealing (5 bar, 4h on request) Vibration: In Grown and 10 to 2000 Hz Elimmability: UI94 HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact esistance: 10 max max. Contact esistance: 10 max max. Contact esistance: 10 max max. Entitle Floating of a seconds (MIL-STD-202G, method 301) Soldering: Soldering Conditions Reliew Profile (to comply with IPC/EDEC) SIDOEX Hond soldering: 280°C max. during 2 sec max.	Contact resistance (new condition):	50 mΩ		
Switching current: O. 2. A [resistive load] max. Switching vollage: 42 V [resistive load] max. Dielectric withstanding vollage: 1500 VDC during 60 seconds (pins to pins, pins to housing) MATERIAL DATA Shoft: Stainless steel Housing: Zinc discost, fiber enforced high performance plastic Nut: Brass Contact system: CuBe allay, AuCo plated (hard gold) Soldering leads: Cute allay, For plated Orings: NBR (nitrile), 70 shore ENVIRONMENTAL DATA Operating/storage temperature range: -40 to +85°C max. Presenting: IP60, optional IP68 (2 bor, 1h) shaft/front panel sealing (5 bor, 4h on request) Vibration: 10 Gm, max. @ 10 to 2000 Hz Flammability: UI94+HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/-30%) Push button switch travel: 0, 5 (+/-0.2) mm Residual push button actuation force (end of life): 90% typ. Push button switch life: ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact pounding time: 2 ms max. Contact resistance: 1 \(\Omax\) max. Push button contaction force (end bousing/shaft: 500 VDC during 60 seconds (MILSTD-202G, method 301) SOLDERING CONDITIONS Reliow Profile (to comply with IPC/(EDEC LSTD-024) Hond soldering: 280°C max. during 2 sec max.	Insulation resistance (new condition):	1 GΩ min. @ 500 VDC		
Switching voltage: 42 V (resistive load) max. Dielectric withstanding voltage: 1500 VDC during 60 seconds (pins to pins, pins to housing) MATERIAL DATA Shaft: Stainless steel Housing: Zinc diacast, fiber enforced high performance plastic Nut: Brass CuBe alloy, AuCo plated (hard gold) Contact system: CuBe alloy, auCo plated (hard gold) Cortings: NBR (nitrile), 70 shore ENVIRONMENTAL DATA Operating/storage temperature range: -40 to +85°C max. IP sealing: IP60, optional IP68 (2 bar, 1h) shaft/front ponel sealing (5 bar, 4h on request) Vibration: 10 G _m , max. 10 10 2000 Hz ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/-30%) Push button actuation force (new condition): 3, 5, 10, 14 N (+/-30%) Push button switch travel: 0, 5 (+/-0.2) mm Residual push button actuation force (end of life): 90% typ. 2 Push button switch life: 200′000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact Position on Position Positio	Max. switching/breaking capacity:	5 VA		
Dielectric withstanding voltage: 1500 VDC during 60 seconds (pins to pins, pins to housing) MATERIAL DATA Shoft: Stainless steel Housing: Zinc diecast, fiber enforced high performance plastic Nut: Brass Contact system: CuBe allay, AuCo plated (flord gold) Soldering leads: CuBe allay, AuCo plated (flord gold) Soldering leads: NBR (nitrile), 70 shore ENVIRONMENTAL DATA Operating/storage temperature range: -40 to +85°C max. IP sealing: IP60, optional IP68 (2 bar, 1h) shaft/front panel sealing (5 bar, 4h on request) Vibrotion: 10 G _{max} max. @ 10 to 2000 Hz Flammobility: U194-HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button actuation force (end of life): 90% typ. 2 Push button actuation force (end of life): 90% typ. 2 Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact tesistance: 1 \(\Omega \text{max}. \) Electrical Data Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Soldering Conholitions Reliew Profile (to comply with PC/EDEC LSID 024 Hand soldering: 280°C max. during 2 sec max.	Switching current:	0.2 A (resistive load) max.		
MATERIAL DATA Shaft: Stainless steel Housing: Zinc disecast, fiber enforced high performance plastic Nut: Brass Contact system: CuBe alloy, AuCo plated (hard gold) Soldering leads: CuBe alloy, tin plated Orings: NBR (nitrile), 70 shore ENVIRONMENTAL DATA Operating/storage temperature range: —40 to +85°C max. IP sealing: IP60, optional IP68 [2 bar, 1h] shaft/front panel sealing (5 bar, 4h on request) Vibration: 10 Gms max. @ 10 to 2000 Hz Flammability: U194-HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. 2 Push button switch life: 200°000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (Pesistitve load, 15 VDC max. voltage) Contact resistance: 1 m max. Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/EDEC J-STD-024 Hand soldering: 280°C max. during 2 sec max.	Switching voltage:	42 V (resistive load) max.		
Shaft: Stainless steel Housing: Zinc diecast, fiber enforced high performance plastic Nut: Brass Contact system: CuBe alloy, AuCo plated (flord gold) Soldering leads: CuBe alloy, AuCo plated (flord gold) Soldering leads: CuBe alloy, tin plated Orings: NBR (nitrile), 70 shore ENVIRONMENTAL DATA Operating/storage temperature range: -40 to +85°C max. Psealing:	Dielectric withstanding voltage:	1500 VDC during 60 seconds (pins to pins, pins to housing)		
Housing: Zinc diecast, fiber enforced high performance plastic Nut: Brass Contact system: CuBe alloy, AuCo plated (hard gold) Soldering leads: CuBe alloy, thin plated Ortings: NBR (nitrile), 70 shore ENVIRONMENTAL DATA Operating/storage temperature range: -40 to +85°C max. IP sealing: IP60, optional IP68 [2 bar, 1h] shaft/front panel sealing (5 bar, 4h on request) Vibration: 10 Gmm max. @ 10 to 2000 Hz Flammability: UL94-HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. 2 but button switch life: 200'000 actuations min. ELECTRICAL DATA Lact Contact bouncing time: 2 ms max. (esistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 \(\Omega \text{ max.} \) Evelocation in the comply with IPC/IEDEC ISTD-020 SOLDERING CONDITIONS Reflow Profile (to comply with IPC/IEDEC ISTD-020 Reflow Profile (to comply with IPC/IEDEC ISTD-020 Reflow Profile (to comply with IPC/IEDEC ISTD-020 Hand soldering: 280°C max. during 2 sec max.	MATERIAL DATA			
Nut: Brass Contact system: CuBe alloy, AuCo plated (hard gold) Soldering leads: CuBe alloy, tin plated O-rings: NBR (nitrile), 70 shore ENVIRONMENTAL DATA Operating/storage temperature range: -40 to +85°C max. IP sealing: IP60, optional IP68 (2 bar, 1h) shaft/front panel sealing (5 bar, 4h on request) Vibration: 10 Gms max. @ 10 to 2000 Hz Flammability: UL94-HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. 2 Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 \(\Omega \text{ max.} \) Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) Reflow Profile (to compt) with IPC//EDEC J-STD-020 Hand soldering: 280°C max. during 2 sec max.	Shaft:	Stainless steel		
Contact system: CuBe alloy, AuCo ploted (hard gold) Soldering leads: CuBe alloy, tin plated Orings: NBR (nitrile), 70 shore ENVIRONMENTAL DATA Operating/storage temperature range: -40 to +85°C max. IP sealing: IP 60, optional IP68 [2 bar, 1h] shaft/front panel sealing (5 bar, 4h on request) Vibration: 10 Gmm max. @ 10 to 2000 Hz Flammability: UL94-HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. 2 hush button switch life: 2 ms max. Contact resistance: 1 \(\Omega \text{max} \). Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comptly with IPC/JEDEC) JSTD-020 Refl	Housing:	Zinc diecast, fiber enforced high performance plastic		
Soldering leads: CuBe alloy, tin plated O-rings: NBR (nitrile), 70 shore ENVIRONMENTAL DATA Operating/storage temperature range: -40 to +85°C max. IP60, optional IP68 (2 bar, 1h) shaft/front panel sealing (5 bar, 4h on request) Vibration: 10 G _{min} max. @ 10 to 2000 Hz Flammability: UI.94 + HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. 2 Push button switch life: 200°000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact resistance: 1 \Omega max. Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL:STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/IEDEC J-STD-02C) Bare and the complex of th	Nut:	Brass		
C-rings: NBR (nitrile), 70 shore ENVIRONMENTAL DATA Operating/storage temperature range: -40 to +85°C max. IP sealing: IP60, optional IP68 (2 bar, 1h) shaft/front panel sealing (5 bar, 4h on request) Vibration: 10 G _{ms} max. @ 10 to 2000 Hz Elammability: UL94-HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button actuation force (end of life): 90% typ. 2 Push button actuation force (end of life): 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 Ω max. Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/IEDEC J-STD-202G)	Contact system:	CuBe alloy, AuCo plated (hard gold)		
ENVIRONMENTAL DATA Operating/storage temperature range: -40 to +85°C max. IP sealing: IP60, optional IP68 (2 bar, 1h) shaft/front panel sealing (5 bar, 4h on request) Vibration: 10 G _{ims} max. @ 10 to 2000 Hz Flammability: U194-HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. 2 Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 \(\Omega \text{max} \). Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-02C max. during 2 sec max.)	Soldering leads:	CuBe alloy, tin plated		
Operating/storage temperature range: -40 to +85°C max. IP sealing: IP soaling: IP 60, optional IP68 (2 bar, 1h) shaft/front panel sealing (5 bar, 4h on request) Vibration: 10 G _{mm} max. @ 10 to 2000 Hz Flammability: UL94-HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 Ω max. Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-024 Max during 2 sec max.	O-rings:	NBR (nitrile), 70 shore		
IP sealing: IP 60, optional IP68 (2 bar, 1h) shaft/front panel sealing (5 bar, 4h on request) Vibration: ID G _{min} max. @ 10 to 2000 Hz Flammability: UI94-HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. 2 Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact resistance: 1 \(\Omega \text{max}. \) Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-02C) Hand soldering: 280°C max. during 2 sec max.	ENVIRONMENTAL DATA			
Vibration: 10 G _{mm} max. @ 10 to 2000 Hz Flammability: UL94-HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/ 30%) Push button switch travel: 0.5 (+/ 0.2) mm Residual push button actuation force (end of life): 90% typ. ² Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 Ω max. Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-02C max. during 2 sec max.	Operating/storage temperature range:	−40 to +85°C max.		
Flammability: UL94-HB ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. 2 Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 \(\Omega \text{max}. \) Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-02C) Hand soldering: 280°C max. during 2 sec max.	IP sealing:	IP60, optional IP68 (2 bar, 1h) shaft/front panel sealing (5 bar, 4h on request)		
ADDITIONAL DATA FOR PUSH BUTTON FUNCTION MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. 2 Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 \(\Omega \text{ max}. \) Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-020 Hand soldering: 280°C max. during 2 sec max.	Vibration:	10 G _{rms} max. @ 10 to 2000 Hz		
MECHANICAL DATA Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. 2 Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 Ω max. Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-02C max. during 2 sec max.	Flammability:	UL94-HB		
Push button actuation force (new condition): 3, 5, 10, 14 N (+/- 30%) Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. 2 Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 Ω max. Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-02C Hand soldering: 280°C max. during 2 sec max.	ADDITIONAL DATA FOR PUSH BU	UTTON FUNCTION		
Push button switch travel: 0.5 (+/- 0.2) mm Residual push button actuation force (end of life): 90% typ. 2 Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 Ω max. Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-02C Hand soldering: 280°C max. during 2 sec max.	MECHANICAL DATA			
Residual push button actuation force (end of life): Po% typ. 2 Push button switch life: 200'000 actuations min. ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 Ω max. Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-02C Hand soldering: 280°C max. during 2 sec max.	Push button actuation force (new condition):	3, 5, 10, 14 N (+/- 30%)		
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ELECTRICAL DATA Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 Ω max. Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-020 Max. during 2 sec max.	Residual push button actuation force (end of life):	90% typ.		
Load current: 10 mA max. (resistive load, 15 VDC max. voltage) Contact bouncing time: 2 ms max. Contact resistance: 1 Ω max. Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-02C) Hand soldering: 280°C max. during 2 sec max.	² Push button switch life:	200'000 actuations min.		
Contact bouncing time: 2 ms max. Contact resistance: 1 \(\Omega \text{max}. \) Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-02C) Hand soldering: 280°C max. during 2 sec max.	ELECTRICAL DATA			
Contact resistance: 1 Ω max. Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-02C) Hand soldering: 280°C max. during 2 sec max.	Load current:	10 mA max. (resistive load, 15 VDC max. voltage)		
Dielectric withstanding voltage to housing/shaft: 500 VDC during 60 seconds (MIL-STD-202G, method 301) SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-02C) Hand soldering: 280°C max. during 2 sec max.	Contact bouncing time:	2 ms max.		
SOLDERING CONDITIONS Reflow Profile (to comply with IPC/JEDEC J-STD-020 Hand soldering: 280°C max. during 2 sec max.	Contact resistance:	1 Ω max.		
Hand soldering: 280°C max. during 2 sec max.	Dielectric withstanding voltage to housing/shaft:	500 VDC during 60 seconds (MIL-STD-202G, method 301)		
Hand soldering: 280°C max. during 2 sec max.	SOLDERING CONDITIONS	Reflow Profile (to comply with IPC/JEDEC J-STD-020		
· · · · · · · · · · · · · · · · · · ·				
	Wave soldering:	280°C max. during 2 sec max. during 4 s max.		

 $^{^{\}rm l}$ The packaging size depends on shipment quantity. If the shipment quantity is < 200 pcs. then standard tray 50 pcs.

PACKAGING QUANTITY

¹ Standard tray:

Antistatic tray:

50 pcs. or 200 pcs.

100 pcs.

^{≥ 200} pcs. then standard tray 200 pcs.

² Rotational/actuation life is tested at room condition (+25°C, 50 to 60% RH). Operating speed is 12 cycles per minute and 2 Hz (push button). Different operating conditions may decrease life expectation dramatically.



DATA SHEET

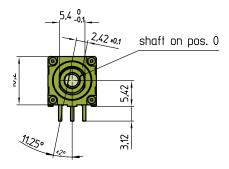
CODED SWITCH TYPE 07PL

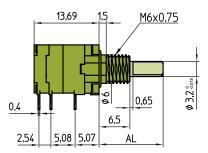


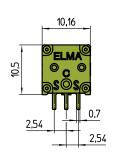
DRAWINGS

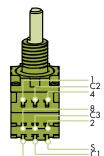
Tolerances unless otherwise specified DIN ISO 2768-1 (m)

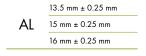
SWITCH DESIGN

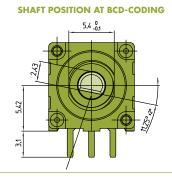




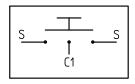






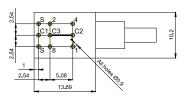


PUSH BUTTON FUNCTION



DRILLING DIAGRAM

Commons (C2, C3) must be connected together on the PCB

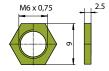


View from component side of the PCB $\,$

FRONT PANEL CUT OUT

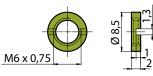


HEX NUT



Spare part Part Number (50 pcs. bag) - Brass: 4424-22

SLOTTED NUT



Part Number (50 pcs. bag)

- Brass: 4424-28

- Stainless steel (cross slot): 4424-31

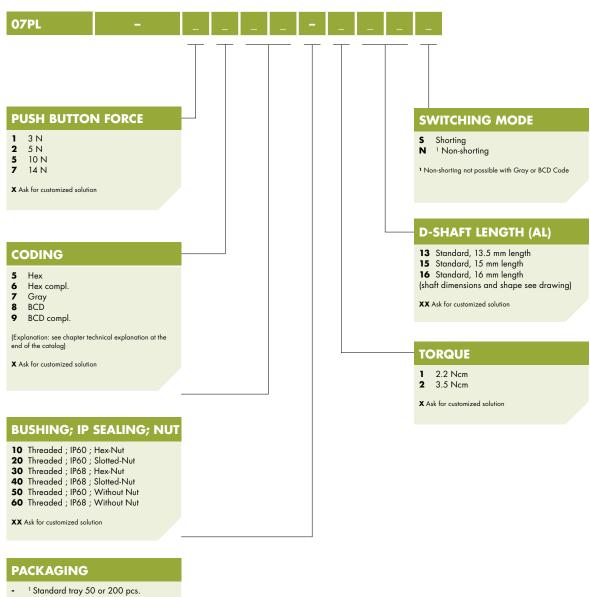




DATA SHEET CODED SWITCH TYPE 07PL

TYPE KEY

STANDARD: HORIZONTAL SHAFT, WITH END-STOP (HEX OR GRAY: 16 POS.)



- A Antistatic tray 100 pcs.
- ¹ The packaging size depends on shipment quantity.
- If the shipment quantity is
 < 200 pcs. then standard tray 50 pcs.
 ≥ 200 pcs. then standard tray 200 pcs.

For further details and order enquiries please contact 4Most: T: +44 (0) 1371 811 171 E: sales@4most.co.uk