

Table of Contents

Saia-Burgess Group	2
International Division Range	
Panel Mounted	7
Push Button	TP2, TP5, TP4, TP8, TP9, TP7
	38
Indicators	TI2, TI5, TI9
	50
Emergency Stop	TE8
	54
Keyswitch	TK2
	60
Rotary	TR2
	65
Accessories	

Saia-Burgess Industry Division

Solutions for comfort and safety



Heating/Ventilation/Air Conditioning



Kitchen Appliances



Domestic Appliances



Vending and Gaming Machines



Special Vehicles



Office Equipment

The Industry Division offers a broad range of standard and customised products: switches, motors, solenoids, door locking systems, electronic control devices and sub-systems. The Division has worldwide presence with its own sales network and tech centre organisation.

Combining the electromechanical with electronics

The fusion of electronic and electromechanical sub-assemblies has made new, innovative solutions possible for a variety of industrial applications.

Highly flexible production

The Division is involved with design and engineering, tool manufacture, electronics, plastic and metal parts production, assembly employing its own extensive quality procedures and test equipment. The options of partially automated or manual production for medium to small volumes offer a high level of manufacturing flexibility.

Domestic appliances are safer and more convenient

The use of control switches, microswitches, solenoids, sensors and sub-systems in coffee machines, extractor hoods, microwave ovens, washing machines, dishwashers, tumble dryers, mixers, etc. has brought greater safety and comfort to the user.

Improved energy efficiency in heating, ventilation and air-conditioning

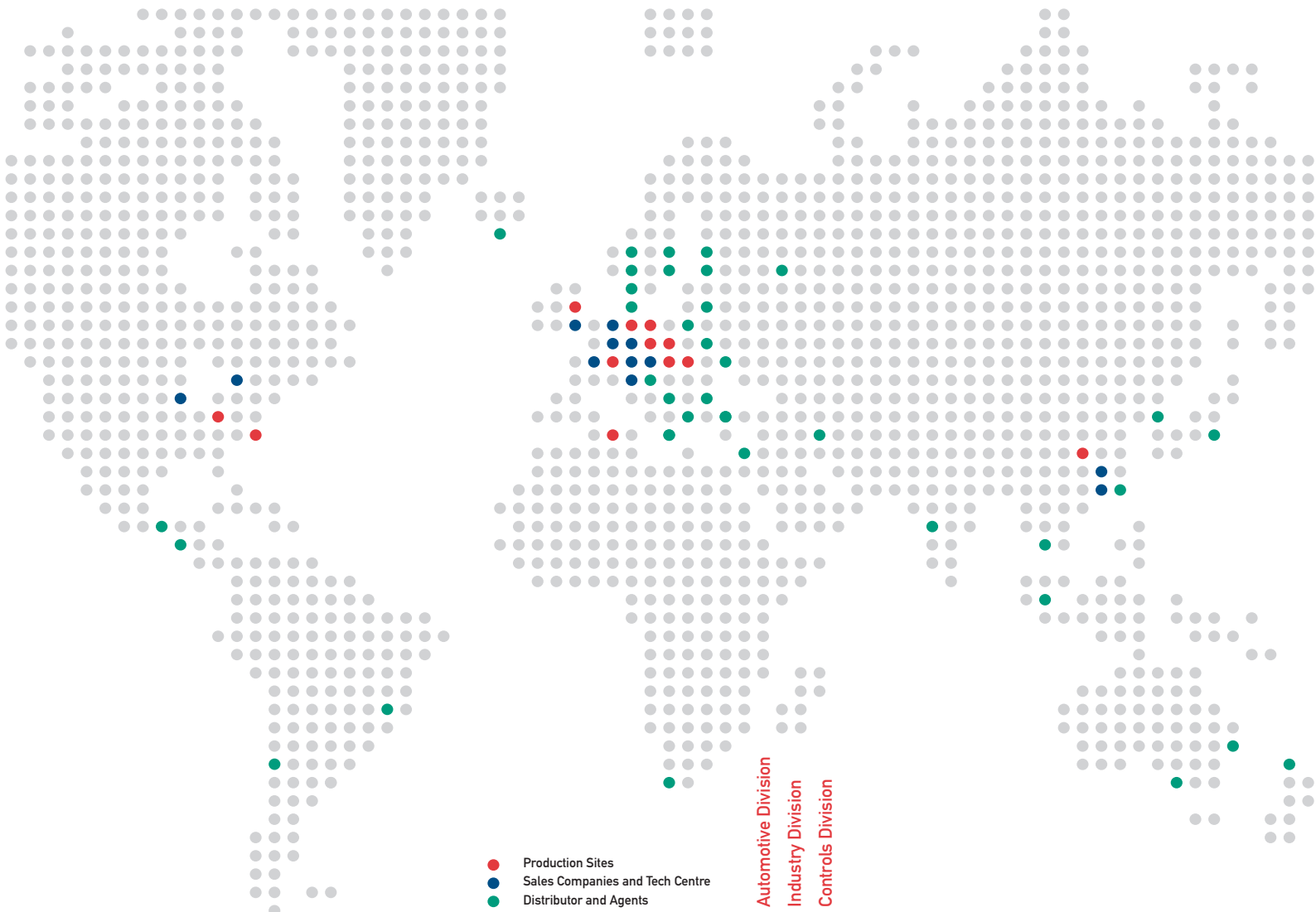
The level of energy efficiency in buildings has been increased by the use of solenoids, motors, microswitches, sensors and sub-systems in gas and water valves, and in air valves for heating, ventilation, air-conditioning and fuel-cell applications.

More comfort and safety in very diverse applications

Comfort and safety have been improved by using microswitches, control switches, motors, solenoids and sub-systems in office machinery, postal sorting equipment and other very varied applications in vending machines, gaming machines, specialist vehicles, telecommunications and medical equipment.

Saia-Burgess Group

International



- Production Sites
- Sales Companies and Tech Centre
- Distributor and Agents

● Automotive Division
● Industry Division
● Controls Division

CH	●	●	●	Saia-Burgess Murten AG, Murten Saia-Burgess Controls AG, Murten Saia-Burgess Cetronic AG, Murten MICS SA, Corcelles (37.9%)
UK	●	●	●	Saia-Burgess Gateshead Ltd., Gateshead
D	●	●	●	Saia-Burgess Oldenburg GmbH & Co. KG, Oldenburg Saia-Burgess Zweigniederlassung Dreieich, Dreieich Saia-Burgess Dresden GmbH, Dresden Saia-Burgess Halver GmbH & Co. KG, Halver Saia-Burgess Deutschland GmbH, Halver
F	●	●	●	Saia-Burgess Paris Sarl, Paris
I	●	●	●	Saia-Burgess Milano Srl., Corsico
A	●	●	●	Saia-Burgess Österreich GmbH, Salzburg
NL/B	●	●	●	Saia-Burgess Benelux B.V., Gouda
H	●	●	●	Saia-Burgess Controls Kft, Budaörs Saia-Burgess Ózd Kft, Ózd Saia-Burgess Hatvan Kft, Hatvan
PL	●	●	●	Saia-Burgess Industry Sp.z o. o. OL, Kattowice
TN	●	●	●	Saia-Burgess Monastir C.S., Monastir
USA	●	●	●	Saia-Burgess Inc., Vandalia Saia-Burgess USA Inc., Vernon Hills Saia-Burgess Automotive Inc., Cary
CDN	●	●	●	Saia-Burgess Canada Co. Inc., Scarborough
CN	●	●	●	Saia-Burgess (HK) Ltd., Hong Kong Saia-Burgess Guangzhou Ltd., Guangzhou Burgess Defond Ltd.* (25%) Shenzhen SMART Micromotor Co. Ltd.* (49%)

*Joint Venture

Close to the customer world-wide

Our production locations, wholly owned sales companies, tech centres and agents place us on hand, wherever our customers are situated.

Panel Mounted

Push Button



Type	TP2	TP5	TP4	TP8	TP9
Panel cut-out (mm)	Ø 16.2/22.5	Ø 16.2/22.5	Ø 16.2/22.5	Ø 22.5	Ø 16.2/22.5
Characteristics	<ul style="list-style-type: none"> ■ momentary or latching ■ sealed IP40, IP65 or IP67 ■ wide range of bezels ■ with or without illumination ■ NO, NC, CO ■ gold plated single or double pole contact blocks 	<ul style="list-style-type: none"> ■ momentary or latching ■ sealed IP40 or IP65 ■ wide range of bezels ■ shallow mounting depth ■ with or without illumination ■ NO, NC ■ gold plated contact blocks 	<ul style="list-style-type: none"> ■ mushroom ■ momentary or latching ■ sealed IP40 or IP65 ■ wide range of bezels ■ NO, NC ■ gold plated contact blocks 	<ul style="list-style-type: none"> ■ momentary ■ sealed IP67 ■ round metal bezels ■ 1NO + 1 NC, 2 NC, 2 NO ■ gold plated contact block 	<ul style="list-style-type: none"> ■ momentary short stroke switch ■ sealed IP65 or IP67 ■ round metal bezels ■ NO ■ snap-in mounting option Ø 22.5 mm (IP65 only)
Rating	250 VAC, 5 A	250 VAC, 5 A	250 VAC, 5 A	230 VAC, 6 A	50 VAC/VDC, 50 mA
Dimensions (mm)	18 × 24 18 × 18 Ø 18 Ø 25	18 × 24 18 × 18 Ø 18 Ø 25	18 × 24 24 × 24 Ø 24 Ø 30	Ø 25	Ø 18 Ø 25
Actuator	■ lenses in different shapes and colours	■ lenses in different shapes and colours	■ mushroom cap in different shapes and colours	■ button and housing in different colours	■ button and housing in different colours
Approvals	UL, CSA, VDE	UL, CSA, VDE	UL, CSA, VDE	none	none

Panel Mounted

Push Button



Type	TP7
Panel cut-out (mm)	Ø 16.2/22.5/30.3/43.3
Characteristics	<ul style="list-style-type: none"> ■ piezo technology ■ momentary ■ sealed IP68 ■ with or without illumination, two colours ■ solid state output ■ NO
Rating	3 to 35 VAC/VDC, 200 mA
Dimensions (mm)	Ø 18 Ø 25 Ø 36 Ø 48
Actuator	■ housing in different colours
Approvals	none

Panel Mounted

Indicators



Emergency Stop



Type	TI2	TI5	TI9	TE8
Panel cut-out (mm)	Ø 16.2 / Ø 22.5	Ø 16.2 / Ø 22.5	Ø 22.5	Ø 16.2/22.5
Characteristics	<ul style="list-style-type: none"> illuminated sealed IP40, IP65 or IP67 wide range of bezels midget grooved lamp/LED 	<ul style="list-style-type: none"> illuminated sealed IP40 or IP65 wide range of bezels midget grooved lamp/LED 	<ul style="list-style-type: none"> illuminated sealed IP67 round metal bezels red LED green LED red-green LED 	<ul style="list-style-type: none"> meets EN418 directives (Ø 27 mm only) sealed IP66 or IP67 rotary pull or key reset yellow disk bezel (optional) 1NO + 1 NC or 2 NC
Rating	max. 60 VDC/AC	max. 60 VDC/AC	24 VDC, 20 mA	250 VAC, 6 A
Dimensions (mm)	18 × 24 18 × 18 Ø 18 Ø 25	18 × 24 18 × 18 Ø 18 Ø 25	Ø 25	Ø 27 Ø 40
Actuator	<ul style="list-style-type: none"> lenses in different shapes and colours 	<ul style="list-style-type: none"> lenses in different shapes and colours 	<ul style="list-style-type: none"> aluminium housing in different colours 	<ul style="list-style-type: none"> red mushroom CAP (Ø 27 mm only) reset by KABA key (Ø 40 mm only)
Approvals	UL, CSA, VDE	UL, CSA, VDE	none	IEC 947-5-1/947-5-5 (Ø 27 mm)

Panel Mounted

Keyswitch



Rotary



Type	TK2	TR2
Panel cut-out (mm)	Ø 16.2/22.5	Ø 16.2/22.5
Characteristics	<ul style="list-style-type: none"> 2 and 3 position sealed IP40 or IP65 plastic or aluminium bezels NO, NC gold plated, single or double pole, contact blocks key trapping options 	<ul style="list-style-type: none"> 2 and 3 position sealed IP40 or IP65 plastic or aluminium bezels NO, NC gold plated, single or double pole, contact blocks
Rating	250 VAC, 5 A	250 VAC, 5 A
Dimensions (mm)	18 × 24 18 × 18 Ø 18 Ø 25	18 × 24 18 × 18 Ø 18 Ø 25
Actuator	<ul style="list-style-type: none"> key-KABA MICRO 	<ul style="list-style-type: none"> black knob with white indicating bar
Approvals	UL, CSA, VDE	UL, CSA, VDE

Panel Mounted

Range:	Type	Popular Products	Popular Products	Page
Push Button	TP2	TP21LAAC1C1A4CN TP21LDAC1C1D4CN TP21MAAC1C1A4CN	TP21MDAC1C1D4CN TP22LFAC1C1F4CN TP22MFAC1C1F4CN	7
	TP5	TP51LAA2A4CN TP51LDA2D4CN TP51MAA2A4CN	TP51MDA2D4CN TP52LFD2F4CN TP52MFD2F4CN	14
	TP4	TP41LAJ2A4NXX TP41LEJ2E4NXX TP41MAJ2A4NXX	TP41MEJ2E4NXX TP42LHJ2H4NXX TP42MHJ2H4NXX	19
	TP8	TP82MDOA30		23
	TP9	TP92MFOA000 TP92MFOA002	TP92MFOA004 TP92MFOA005	26
	TP7	TP71MD1B04XX TP71MD1B02XX TP71MD1B05XX TP71MD1B00XX	TP72MF1B00XX TP72MG4B00C2 TP72MG2B00C4	30
Indicators	TI2	TI21VAAF4CN	TI22VFAF4CN	38
	TI5	TI51VALA4CN	TI52VFSF4CN	43
	TI9	TI92VFOA500		47
Emergency Stop	TE8	TE82KJB1XX	TE81RGP2A1	50
Keyswitch	TK2	TK21B2A001C1C1A	TK22B2E001C1C1E	54
Rotary	TR2	TR21A2AC1C1A TR22A2CC1C1E	TR21C2AC1C1A TR22C2CC1C1E	60
Accessories				65

TP2

Panel Mounted

Push Button

TP2

Panel cut-out (mm)	Ø 16.2/22.5
Characteristics	<ul style="list-style-type: none">momentary or latchingsealed IP40, IP65 or IP67wide range of bezelswith or without illuminationNO, NC, COgold plated single or double pole contact blocks
Rating	250 VAC, 5 A
Dimensions (mm)	18 × 24 18 × 18 Ø 18 Ø 25
Actuator	lenses in different shapes and colours
Approvals	UL, CSA, VDE



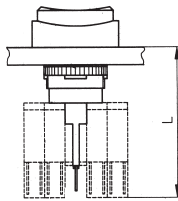
Popular products

Ordering Reference	Panel cut-out	Function	Actuator style	Terminals	Electrical rating
TP21LAAC1C1A4CN	Ø 16.2 mm	Latching; IP40	18 × 24 mm, red Illumination	2.8 × 0.5 mm faston	250 VAC, 5A
TP21LDAC1C1D4CN	Ø 16.2 mm	Latching; IP40	Ø 18 mm, red Illumination	2.8 × 0.5 mm faston	250 VAC, 5A
TP21MAAC1C1A4CN	Ø 16.2 mm	Momentary; IP40	18 × 24 mm, red Illumination	2.8 × 0.5 mm faston	250 VAC, 5A
TP21MDAC1C1D4CN	Ø 16.2 mm	Momentary; IP40	Ø 18 mm, red Illumination	2.8 × 0.5 mm faston	250 VAC, 5A
TP22LFAC1C1E4CN	Ø 22.5 mm	Latching; IP65	Ø 25 mm, red Illumination	2.8 × 0.5 mm faston	250 VAC, 5A
TP22MFAC1C1E4CN	Ø 22.5 mm	Momentary; IP65	Ø 25 mm, red Illumination	2.8 × 0.5 mm faston	250 VAC, 5A

Specifications

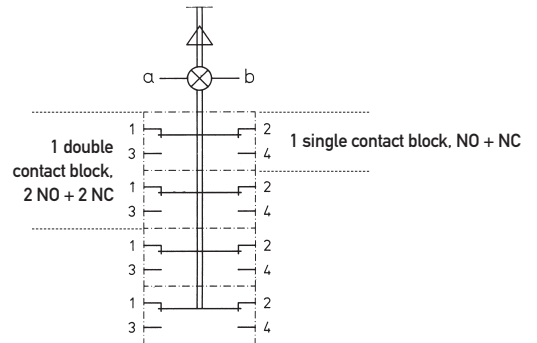
Mechanism	Bi-functional – momentary or latching
Actuating force	Approximately 2.5N – 1 contact block
Mounting	Central fixing with metal lock nut
Protection	IP40, IP65, IP67
Bezel material	Thermoplastic or anodized aluminium alloy
Lens material	Polycarbonate – engravable
Illumination	T1 ¾ midget grooved lamps – incandescent lamps , LEDs, multi LEDs 60 V, 1.2W maximum Lamp contact "b" = cathode (-) Appropriate safety regulations should be respected when using the indicator light.
Temperature range °C	-25°C to +85°C
Mechanical life	10 ⁶ cycles
Contact block	Slide-on assembly by the user with locking mechanism
Contact block housing	Self-extinguishing duroplastic (UL 94 plus V0)
Terminal material	Silver alloy with 0.2 µm silver plating, 0.4 µm gold plating
Contact resistance	<30 mOhm
Number of contact blocks	User configurable NO or NC types up to a maximum of 2 double contact blocks
Terminals	Solder – suitable for wire diameter 1 × 1.00 mm ² (braided), 2 × 0.75 mm (stranded) Faston – 2.8 mm × 0.5 mm
Vibration resistance	1.5 mm pp amplitude at 55 Hz

Dimensions



Length in mm (with contact block)	
plastic bezels	43.0
aluminium bezels	42.0
aluminium bezels	50.0
concealed mounting	

Circuit diagram (2 double contact blocks)



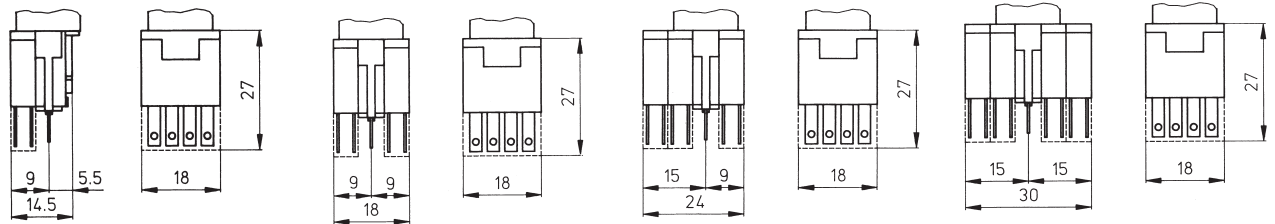
Contact blocks

1 single contact block

2 single contact blocks

1 single contact block +
1 double contact block

2 double contact blocks



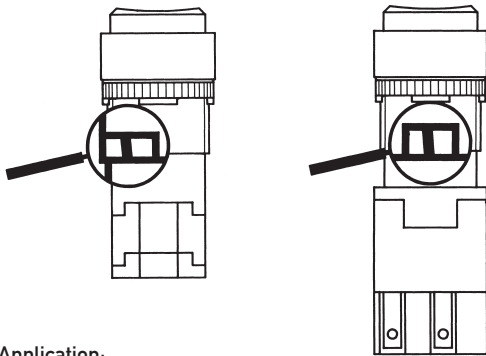
Recommended maximum electrical ratings

Voltage (max) 250 VAC	Resistive load (A) 5.0 (0.7 pf)	Inductive load (A) L/R = 15 ms	Approval UL, CSA, VDE - max. admissible circuit breaker C6A
12 VDC	5.0	3.0	General rating
24 VDC	4.0	2.0	General rating
36 VDC	3.0	1.7	General rating
48 VDC	2.0	1.5	General rating
60 VDC	1.5	1.2	General rating
125 VDC	0.5	0.3	General rating
250 VDC	0.3	0.2	General rating

Electrical life 50,000 cycles at 5A, 250 VAC, 0.7 pf

Bi-functional selection

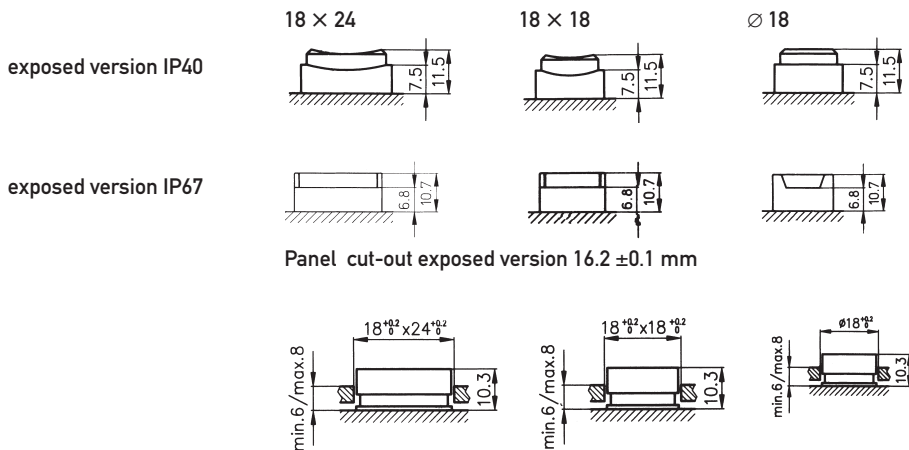
All latching switches in the range incorporate a simple selector mechanism for modifying the function of the switch. This function is not available with momentary switches.



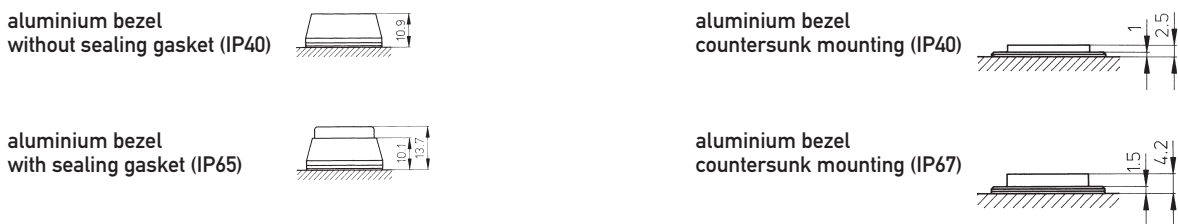
Application:

When the switch is in the off position the selector mechanism can be moved to the right to obtain a momentary function, or to the left to return to a latching function.

Plastic bezel and lens heights in mm (switch off position)



Aluminium bezel ∅ 25 and lens heights in mm (switch off position)



Panel cut-out 22.5 ±0.1 mm

Front panel thickness	plastic bezel	1.0 mm to 6.5 mm
	aluminium bezel	1.0 mm to 5.0 mm
	countersunk mounting	2.0 mm to 15.0 mm

Ordering Reference

Range	TP2							
Panel cut-out	1	16.2 mm						
Switch body (A)	MAA	Function	Actuator	Housing (plastic)	Part No.			
	MAB	Momentary	18 × 24 mm	Exposed ; IP40; faston	TH501008000			
	MAC	Momentary	18 × 24 mm	Concealed ; IP40; faston	TH501002000			
	LAA	Latching_	18 × 24 mm	Exposed ; IP67; faston	TH501015000			
	LAB	Latching_	18 × 24 mm	Exposed ; IP40; faston	TH511008000			
	LAC	Latching_	18 × 24 mm	Concealed ; IP40; faston	TH511002000			
	(B)	MBA	Momentary	18 × 18 mm	Exposed ; IP67; faston	TH511015000		
		MBB	Momentary	18 × 18 mm	Exposed ; IP40; faston	TH503008000		
		MBC	Momentary	18 × 18 mm	Concealed ; IP40; faston	TH503002000		
		LBA	Latching_	18 × 18 mm	Exposed ; IP67; faston	TH503015000		
		LBB	Latching_	18 × 18 mm	Exposed ; IP40; faston	TH513008000		
		LBC	Latching_	18 × 18 mm	Concealed ; IP40; faston	TH513002000		
	(C)	MDA	Momentary	∅ 18 mm	Exposed ; IP67; faston	TH513015000		
		MDB	Momentary	∅ 18 mm	Exposed ; IP40; faston	TH505008000		
		MDC	Momentary	∅ 18 mm	Concealed ; IP40; faston	TH505002000		
		LDA	Latching_	∅ 18 mm	Exposed ; IP67; faston	TH505015000		
		LDB	Latching_	∅ 18 mm	Exposed ; IP40; faston	TH515008000		
		LDC	Latching_	∅ 18 mm	Concealed ; IP40; faston	TH515002000		
Contact block, gold Position 1	XX	No Contact Blocks		Terminals		Part No.		
	A1	NO		2.8 × 0.5mm		TH593566020		
	A9	NO		Insulated faston		TH593560020		
	A8	NO		Solder		TH593561020		
	B1	NC		2.8 × 0.5mm		TH593566050		
	B9	NC		Insulated faston		TH593560050		
	B8	NC		Solder		TH593561050		
	C1	1 NO + 1 NC		2.8 × 0.5mm		TH593566000		
	C9	1 NO + 1 NC		Insulated faston		TH593560000		
	C8	1 NO + 1 NC		Solder		TH593561000		
Contact block, gold Position 2	D1	2 NO + 2 NC		2.8 × 0.5mm		TH593567000		
	D9	2 NO + 2 NC		Insulated faston		TH593563000		
	D8	2 NO + 2 NC		Solder		TH593564000		
	XX	No Contact Blocks		Terminals		Part No.		
	A1	NO		2.8 × 0.5mm		TH593566020		
	A9	NO		Insulated faston		TH593560020		
	A8	NO		Solder		TH593561020		
	B1	NC		2.8 × 0.5mm		TH593566050		
Lens, transparent For Switch body style (A)	B9	NC		Insulated faston		TH593560050		
	B8	NC		Solder		TH593561050		
	C1	1 NO + 1 NC		2.8 × 0.5mm		TH593566000		
	C9	1 NO + 1 NC		Insulated faston		TH593560000		
	C8	1 NO + 1 NC		Solder		TH593561000		
	D1	2 NO + 2 NC		2.8 × 0.5mm		TH593567000		
	D9	2 NO + 2 NC		Insulated faston		TH593563000		
	D8	2 NO + 2 NC		Solder		TH593564000		
	For Switch body style (B)	A0	White	Exposed 15 × 21 mm	Concealed 18 × 24 mm	Exposed IP40 TH461021000	Concealed IP 40 TH461017000	Exposed IP67 TH561011000
		A1	Yellow	15 × 21 mm	18 × 24 mm	TH461121000	TH461117000	TH561111000
A2		Green	15 × 21 mm	18 × 24 mm	TH461221000	TH461217000	TH561211000	
A3		Blue	15 × 21 mm	18 × 24 mm	TH461321000	TH461317000	TH561311000	
A4		Red	15 × 21 mm	18 × 24 mm	TH461421000	TH461417000	TH561411000	
A6		Orange	15 × 21 mm	18 × 24 mm	TH461621000	TH461617000	TH561611000	
For Switch body style (C)		B0	White	15 × 15 mm	18 × 18 mm	TH463021000	TH463018000	TH563011000
		B1	Yellow	15 × 15 mm	18 × 18 mm	TH463121000	TH463118000	TH563111000
		B2	Green	15 × 15 mm	18 × 18 mm	TH463221000	TH463218000	TH563211000
		B3	Blue	15 × 15 mm	18 × 18 mm	TH463321000	TH463318000	TH563311000
		B4	Red	15 × 15 mm	18 × 18 mm	TH463421000	TH463418000	TH563411000
		B6	Orange	15 × 15 mm	18 × 18 mm	TH463621000	TH463618000	TH563611000
For Switch body style (C)	D0	White	∅ 15 mm	∅ 18 mm	TH465021000	TH465015000	TH565011000	
	D1	Yellow	∅ 15 mm	∅ 18 mm	TH465121000	TH465115000	TH565111000	
	D2	Green	∅ 15 mm	∅ 18 mm	TH465221000	TH465215000	TH565211000	
	D3	Blue	∅ 15 mm	∅ 18 mm	TH465321000	TH465315000	TH565311000	
	D4	Red	∅ 15 mm	∅ 18 mm	TH465421000	TH465415000	TH565411000	
	D6	Orange	∅ 15 mm	∅ 18 mm	TH465621000	TH465615000	TH565611000	
Illumination	X	Non illuminated						
	A	6V						
	B	12V						
	C	24V						
	F	48V						
Illumination Colour	X	Non illuminated						
	N	Incandescent lamp	6V, 200 mA TH590000000	12V, 80 mA TH590001000	24V, 50 mA TH590006000	48V, 25 mA TH590004000		
	1	Yellow LED	6V AC/DC, 45 mA TH590231000	12V AC/DC, 25 mA TH590234000	24V AC/DC, 12.5 mA TH590237000	48V AC/DC, 12.5 mA TH590240000		
	2	Green LED	TH590232000	TH590235000	TH590238000	TH590241000		
	4	Red LED	TH590230000	TH590233000	TH590236000	TH590239000		

Note: Contact blocks will be supplied unassembled

Ordering Reference

Range	TP2							
Panel cut-out	1 16.2 mm							
Switch body (A)	MAD	Function	Actuator	Housing (plastic)	Part No.			
	MAE	Momentary	18 × 24 mm	Exposed ; IP40; solder	TH501108000			
	MAF	Momentary	18 × 24 mm	Concealed ; IP40; solder	TH501102000			
	LAD	Momentary	18 × 24 mm	Exposed ; IP67; solder	TH501115000			
	LAE	Latching_	18 × 24 mm	Exposed ; IP40; solder	TH511108000			
	LAF	Latching_	18 × 24 mm	Concealed ; IP40; solder	TH511102000			
		Latching_	18 × 24 mm	Exposed ; IP67; solder	TH511115000			
	(B)	MBD	Momentary	18 × 18 mm	Exposed ; IP40; solder	TH503108000		
		MBE	Momentary	18 × 18 mm	Concealed ; IP40; solder	TH503102000		
		MBF	Momentary	18 × 18 mm	Exposed ; IP67; solder	TH503115000		
		LBD	Latching_	18 × 18 mm	Exposed ; IP40; solder	TH513108000		
		LBE	Latching_	18 × 18 mm	Concealed ; IP40; solder	TH513102000		
		LBF	Latching_	18 × 18 mm	Exposed ; IP67; solder	TH513115000		
	(C)	MDD	Momentary	Ø 18 mm	Exposed ; IP40; solder	TH505108000		
		MDE	Momentary	Ø 18 mm	Concealed ; IP40; solder	TH505102000		
MDF		Momentary	Ø 18 mm	Exposed ; IP67; solder	TH505115000			
LDD		Latching_	Ø 18 mm	Exposed ; IP40; solder	TH515108000			
LDE		Latching_	Ø 18 mm	Concealed ; IP40; solder	TH515102000			
LDF		Latching_	Ø 18 mm	Exposed ; IP67; solder	TH515115000			
Contact block, gold Position 1	XX	No Contact Blocks		Terminals	Part No.			
	A1	NO		2.8 × 0.5mm	TH593566020			
	A9	NO		Insulated faston	TH593560020			
	A8	NO		Solder	TH593561020			
	B1	NC		2.8 × 0.5mm	TH593566050			
	B9	NC		Insulated faston	TH593560050			
	B8	NC		Solder	TH593561050			
	C1	1 NO + 1 NC		2.8 × 0.5mm	TH593566000			
	C9	1 NO + 1 NC		Insulated faston	TH593560000			
	C8	1 NO + 1 NC		Solder	TH593561000			
	D1	2 NO + 2 NC		2.8 × 0.5mm	TH593567000			
	D9	2 NO + 2 NC		Insulated faston	TH593563000			
	D8	2 NO + 2 NC		Solder	TH593564000			
	Contact block, gold Position 2	XX	No Contact Blocks		Terminals	Part No.		
		A1	NO		2.8 × 0.5mm	TH593566020		
A9		NO		Insulated faston	TH593560020			
A8		NO		Solder	TH593561020			
B1		NC		2.8 × 0.5mm	TH593566050			
B9		NC		Insulated faston	TH593560050			
B8		NC		Solder	TH593561050			
C1		1 NO + 1 NC		2.8 × 0.5mm	TH593566000			
C9		1 NO + 1 NC		Insulated faston	TH593560000			
C8		1 NO + 1 NC		Solder	TH593561000			
D1		2 NO + 2 NC		2.8 × 0.5mm	TH593567000			
D9		2 NO + 2 NC		Insulated faston	TH593563000			
D8		2 NO + 2 NC		Solder	TH593564000			
Lens, transparent For Switch body style (A)		A0	White	Exposed 15 × 21 mm	Concealed 18 × 24 mm	Exposed IP40 TH461021000	Concealed IP 40 TH461017000	Exposed IP67 TH561011000
		A1	Yellow	15 × 21 mm	18 × 24 mm	TH461121000	TH461117000	TH561111000
	A2	Green	15 × 21 mm	18 × 24 mm	TH461221000	TH461217000	TH561211000	
	A3	Blue	15 × 21 mm	18 × 24 mm	TH461321000	TH461317000	TH561311000	
	A4	Red	15 × 21 mm	18 × 24 mm	TH461421000	TH461417000	TH561411000	
	A6	Orange	15 × 21 mm	18 × 24 mm	TH461621000	TH461617000	TH561611000	
	For Switch body style (B)	B0	White	15 × 15 mm	18 × 18 mm	TH463021000	TH463018000	TH563011000
		B1	Yellow	15 × 15 mm	18 × 18 mm	TH463121000	TH463118000	TH563111000
		B2	Green	15 × 15 mm	18 × 18 mm	TH463221000	TH463218000	TH563211000
		B3	Blue	15 × 15 mm	18 × 18 mm	TH463321000	TH463318000	TH563311000
		B4	Red	15 × 15 mm	18 × 18 mm	TH463421000	TH463418000	TH563411000
		B6	Orange	15 × 15 mm	18 × 18 mm	TH463621000	TH463618000	TH563611000
	For Switch body style (C)	D0	White	Ø 15 mm	Ø 18 mm	TH465021000	TH465015000	TH565011000
		D1	Yellow	Ø 15 mm	Ø 18 mm	TH465121000	TH465115000	TH565111000
		D2	Green	Ø 15 mm	Ø 18 mm	TH465221000	TH465215000	TH565211000
		D3	Blue	Ø 15 mm	Ø 18 mm	TH465321000	TH465315000	TH565311000
		D4	Red	Ø 15 mm	Ø 18 mm	TH465421000	TH465415000	TH565411000
		D6	Orange	Ø 15 mm	Ø 18 mm	TH465621000	TH465615000	TH565611000
Illumination	X	Non illuminated						
	A	6V						
	B	12V						
	C	24V						
	F	48V						
Illumination Colour	X	Non illuminated						
	N	Incandescent lamp	6V, 200 mA TH590000000	12V, 80 mA TH590010000	24V, 50 mA TH590060000	48V, 25 mA TH590040000		
	1	Yellow LED	6V AC/DC, 45 mA TH590231000	12V AC/DC, 25 mA TH590234000	24V AC/DC, 12.5 mA TH590237000	48V AC/DC, 12.5 mA TH590240000		
	2	Green LED	TH590232000	TH590235000	TH590238000	TH590241000		
	4	Red LED	TH590230000	TH590233000	TH590236000	TH590239000		

Note: Contact blocks will be supplied unassembled

Ordering Reference

Range	TP2						
Panel cut-out	2	22.5 mm					
Switch body (A)	MFA	Function	Actuator	Housing	Part No.		
	LFA	Momentary	Ø 25	Exposed plastic; IP65; faston	TH505020000		
		Latching_	Ø 25	Exposed plastic; IP65; faston	TH515020000		
	(B)	MFB	Momentary	Ø 25	Exposed aluminium; IP40 / IP65*; faston	TH505018000	
		LFB	Latching_	Ø 25	Exposed aluminium; IP40 / IP65*; faston	TH515018000	
		MFC	Momentary	Ø 25	Exposed aluminium; IP65* with silicon cap; faston	TH505033000	
		LFC	Latching_	Ø 25	Exposed aluminium; IP65* with silicon cap; faston	TH515033000	
		MFD	Momentary	Ø 25	Flush-aluminium; IP40; faston	TH505050000	
		LFD	Latching_	Ø 25	Flush-aluminium; IP40; faston	TH515050000	
	MFE	Momentary	Ø 25	Flush-aluminium; IP67; faston	TH505051000		
	LFE	Latching_	Ø 25	Flush-aluminium; IP67; faston	TH515051000		
	Contact block, gold Position 1	XX	No contact blocks		Terminals	Part No.	
A1		NO		2.8 × 0.5mm	TH593566020		
A9		NO		Insulated faston	TH593560020		
A8		NO		Solder	TH593561020		
B1		NC		2.8 × 0.5mm	TH593566050		
B9		NC		Insulated faston	TH593560050		
B8		NC		Solder	TH593561050		
C1		1 NO + 1 NC		2.8 × 0.5mm	TH593566000		
C9		1 NO + 1 NC		Insulated faston	TH593560000		
C8		1 NO + 1 NC		Solder	TH593561000		
D1		2 NO + 2 NC		2.8 × 0.5mm	TH593569000		
D9		2 NO + 2 NC		Insulated faston	TH593563000		
D8		2 NO + 2 NC		Solder	TH593564000		
Contact block, gold Position 2		XX	No contact blocks		Terminals	Part No.	
		A1	NO		2.8 × 0.5mm	TH593566020	
		A9	NO		Insulated faston	TH593560020	
		A8	NO		Solder	TH593561020	
		B1	NC		2.8 × 0.5mm	TH593566050	
	B9	NC		Insulated faston	TH593560050		
	B8	NC		Solder	TH593561050		
	C1	1 NO + 1 NC		2.8 × 0.5mm	TH593566000		
	C9	1 NO + 1 NC		Insulated faston	TH593560000		
	C8	1 NO + 1 NC		Solder	TH593561000		
	D1	2 NO + 2 NC		2.8 × 0.5mm	TH593569000		
	D9	2 NO + 2 NC		Insulated faston	TH593563000		
	D8	2 NO + 2 NC		Solder	TH593564000		
	Lens, transparent For Switch body style (A)	E0	White	Ø 21	TH565024000	} For Plastic Bezel only IP65	
		E1	Yellow	Ø 21	TH565124000		
		E2	Green	Ø 21	TH565224000		
		E3	Blue	Ø 21	TH565324000		
		E4	Red	Ø 21	TH565424000		
E6		Orange	Ø 21	TH565624000			
For Switch body style (B)	F0	White	Ø 18	TH465015000	IP40/IP65	} For Aluminium Bezel only	
	F1	Yellow	Ø 18	TH465115000	IP65 with Silicon cap		
	F2	Green	Ø 18	TH465215000	IP67		
	F3	Blue	Ø 18	TH465315000			
	F4	Red	Ø 18	TH465415000			
	F6	Orange	Ø 18	TH465615000			
Illumination	X	Non illuminated					
	A	6V					
	B	12V					
	C	24V					
	F	48V					
Illumination Colour	X	Non illuminated					
	N	Incandescent lamp	6V, 200 mA TH590000000	12V, 80 mA TH590001000	24V, 50 mA TH590006000	48V, 25 mA TH590004000	
	1	Yellow LED	6V AC/DC, 45 mA TH590231000	12V AC/DC, 25 mA TH590234000	24V AC/DC, 12.5 mA TH590237000	48V AC/DC, 12.5 mA TH590240000	
	2	Green LED	TH590232000	TH590235000	TH590238000	TH590241000	
	4	Red LED	TH590230000	TH590233000	TH590236000	TH590239000	

Note: Contact blocks will be supplied unassembled

Ordering Reference

Range	TP2						
Panel cut-out	2 22.5 mm						
Switch body (A)		Function	Actuator	Housing	Part No.		
	MFF	Momentary	Ø 25	Exposed plastic; IP65; solder	TH505120000		
	LFF	Latching	Ø 25	Exposed plastic; IP65; solder	TH515120000		
	(B)	MFG	Momentary	Ø 25	Exposed aluminium; IP40 / IP65*; solder		
	LFG	Latching	Ø 25	Exposed aluminium; IP40 / IP65*; solder		TH505118000	
	MFH	Momentary	Ø 25	Exposed aluminium; IP65* with silicon cap; solder		TH505133000	
	LFH	Latching	Ø 25	Exposed aluminium; IP65* with silicon cap; solder		TH515133000	
	MFJ	Momentary	Ø 25	Flush-aluminium; IP40; solder		TH505150000	
	LFJ	Latching	Ø 25	Flush-aluminium; IP40; solder		TH515150000	
	MFK	Momentary	Ø 25	Flush-aluminium; IP67; solder		TH505151000	
LFK	Latching	Ø 25	Flush-aluminium; IP67; solder		TH515151000		
Contact block, gold Position 1	XX	No Contact Blocks		Terminals	Part No.		
	A1	NO		2.8 × 0.5mm	TH593566020		
	A9	NO		Insulated faston	TH593560020		
	A8	NO		Solder	TH593561020		
	B1	NC		2.8 × 0.5mm	TH593566050		
	B9	NC		Insulated faston	TH593560050		
	B8	NC		Solder	TH593561050		
	C1	1 NO + 1 NC		2.8 × 0.5mm	TH593566000		
	C9	1 NO + 1 NC		Insulated faston	TH593560000		
	C8	1 NO + 1 NC		Solder	TH593561000		
	D1	2 NO + 2 NC		2.8 × 0.5mm	TH593567000		
	D9	2 NO + 2 NC		Insulated faston	TH593563000		
	D8	2 NO + 2 NC		Solder	TH593564000		
	Contact block, gold Position 2	XX	No Contact Blocks		Terminals	Part No.	
		A1	NO		2.8 × 0.5mm	TH593566020	
		A9	NO		Insulated faston	TH593560020	
		A8	NO		Solder	TH593561020	
B1		NC		2.8 × 0.5mm	TH593566050		
B8		NC		Solder	TH593561050		
C1		1 NO + 1 NC		2.8 × 0.5mm	TH593566000		
C9		1 NO + 1 NC		Insulated faston	TH593560000		
C8		1 NO + 1 NC		Solder	TH593561000		
D1		2 NO + 2 NC		2.8 × 0.5mm	TH593567000		
D9		2 NO + 2 NC		Insulated faston	TH593563000		
D8		2 NO + 2 NC		Solder	TH593564000		
Lens, transparent For Switch body style (A)		E0	White	Ø 21	TH565024000	} For Plastic Bezel only IP65	
		E1	Yellow	Ø 21	TH565124000		
		E2	Green	Ø 21	TH565224000		
		E3	Blue	Ø 21	TH565324000		
		E4	Red	Ø 21	TH565424000		
	E5	Orange	Ø 21	TH565524000			
	E6	Orange	Ø 21	TH565624000			
For Switch body style (B)	F0	White	Ø 18	IP40/IP65 TH465015000	IP65 with Silicon cap TH465001000	IP67 TH565025000	
	F1	Yellow	Ø 18	TH465115000	TH465101000	TH565125000	
	F2	Green	Ø 18	TH465215000	TH465201000	TH565225000	
	F3	Blue	Ø 18	TH465315000	TH465301000	TH565325000	
	F4	Red	Ø 18	TH465415000	TH465401000	TH565425000	
	F5	Orange	Ø 18	TH465515000	TH465501000	TH565525000	
	F6	Orange	Ø 18	TH465615000	TH465601000	TH565625000	
Illumination	X	Non illuminated					
	A	6V					
	B	12V					
	C	24V					
	F	48V					
Illumination Colour	X	Non illuminated					
	N	Incandescent lamp	6V, 200 mA TH590000000	12V, 80 mA TH590001000	24V, 50 mA TH590006000	48V, 25 mA TH590004000	
	1	Yellow LED	6V AC/DC, 45 mA TH590231000	12V AC/DC, 25 mA TH590234000	24V AC/DC, 12.5 mA TH590237000	48V AC/DC, 12.5 mA TH590240000	
	2	Green LED	TH590232000	TH590235000	TH590238000	TH590241000	
	4	Red LED	TH590230000	TH590233000	TH590236000	TH590239000	

Note: Contact blocks will be supplied unassembled

TP5

Panel Mounted

Push Button

TP5

Panel cut-out (mm) \varnothing 16.2/22.5

- Characteristics
- momentary or latching
 - sealed IP40 or IP65
 - wide range of bezels
 - shallow mounting depth
 - with or without illumination
 - NO, NC
 - gold plated contact blocks

Rating 250 VAC, 5 A

Dimensions (mm) 18 × 24
18 × 18
 \varnothing 18
 \varnothing 25

Actuator lenses in different shapes and colours

Approvals UL, CSA, VDE



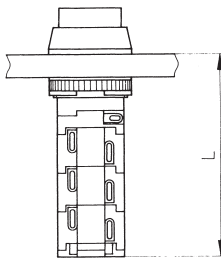
Popular Products

Ordering Reference	Panel cut-out	Function	Actuator style	Terminals	Electrical rating
TP51LAA2A4CN	\varnothing 16.2 mm	Latching; IP40	18 × 24 mm, red Illumination	Solder: gold	250 VAC, 5A
TP51LDA2D4CN	\varnothing 16.2 mm	Latching; IP40	\varnothing 18 mm, red Illumination	Solder: gold	250 VAC, 5A
TP51MAA2A4CN	\varnothing 16.2 mm	Momentary; IP40	18 × 24 mm, red Illumination	Solder: gold	250 VAC, 5A
TP51MDA2D4CN	\varnothing 16.2 mm	Momentary; IP40	\varnothing 18 mm, red Illumination	Solder: gold	250 VAC, 5A
TP52LFD2F4CN	\varnothing 22.5 mm	Latching; IP40	\varnothing 25 mm, red Illumination	Solder: gold	250 VAC, 5A
TP52MFD2F4CN	\varnothing 22.5 mm	Momentary; IP40	\varnothing 25 mm, green Illumination	Solder: gold	250 VAC, 5A

Specifications

Mechanism	Bi-functional – momentary or latching
Actuating force	Approximately 2.5N – 1 contact block
Mounting	Central fixing with metal lock nut
Protection	IP40, IP65
Bezel material	Thermoplastic or anodized aluminium alloy
Lens material	Polycarbonate – engravable
Illumination	T13/4 midget grooved lamps – incandescent lamps , LEDs, multi LEDs 60 V, 1.2 W maximum Lamp contact "a" = cathode (-) Appropriate safety regulations should be respected when using the indicator light.
Temperature range °C	-30°C to +80°C
Mechanical life	10 ⁶ cycles
Contact block (blocks)	Supplied fitted
Contact block housing	Self-extinguishing duroplastic (UL 94 V0)
Terminal material	Silver alloy with 0.2 µm silver plating plus 0.4 µm gold plating
Contact resistance	< 30mOhm
Number of contact blocks	1 NO + 1 NC per contact block, up to a maximum of 3 contact blocks per switch
Terminals	Patented flexible solder - suitable for wire diameter 2 × 1.00 mm ² (braided), 4 × 0.75 mm (stranded)
Vibration resistance	1.5 mm pp amplitude at 55 Hz

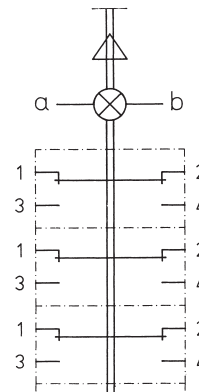
Dimensions



Length in mm (countersunk mounting version)

Panel cut-out	16.2 ±0.1	22.5 ±0.1
N° of contact blocks 1	27.5	26.5 (35.0)
2	36.0	35.0 (43.5)
3	44.5	43.5 (52.0)

Circuit diagram (3 contact blocks)

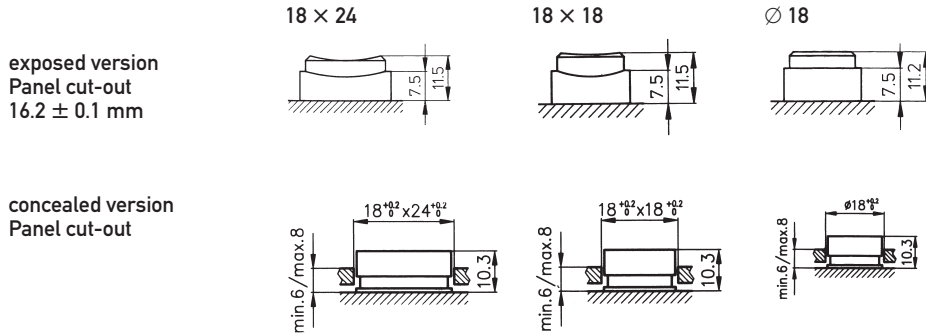


Recommended maximum electrical ratings

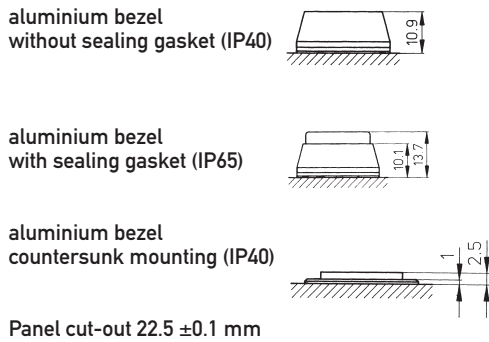
Voltage (max)	Resistive load (A)	Inductive load (A)	Approval
250 VAC	5.0 (0.7 pf)		UL, CSA, VDE - max. admissible circuit breaker C6A
12 VDC	5.0	3.0	General rating
24 VDC	4.0	2.0	General rating
36 VDC	3.0	1.7	General rating
48 VDC	2.0	1.5	General rating
60 VDC	1.5	1.2	General rating
125 VDC	0.5	0.3	General rating
250 VDC	0.3	0.2	General rating

Electrical life 70,000 cycles at 5A, 250 VAC, 0.7 pf

Dimensions Plastic bezel and lens heights in mm (switch off position)



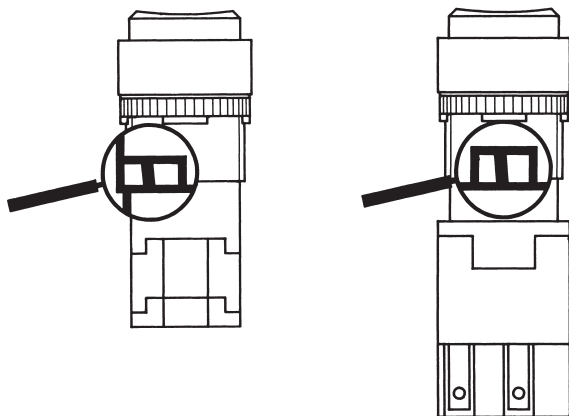
Aluminium bezel ∅ 25 and lens heights in mm (switch off position)



Front panel thickness	plastic bezel	1.0 mm to 5.5 mm
	aluminium bezel	1.0 mm to 5.0 mm
	countersunk mounting	2.0 mm to 20.0 mm

Bi-functional selection

All latching switches in the range incorporate a simple selector mechanism for modifying the function of the switch.
This function is not available with momentary or interlocking switches.



Application:
When the switch is in the off position the selector mechanism can be moved to the right to obtain a momentary function, or to the left to return to a latching function.

Ordering Reference

Range		TP5				
Panel cut-out		1 16.2 mm				
Switch body (A)	Function	Actuator	Housing (plastic)	Contact blocks	Part No.	
	MAA0	Momentary	18 × 24 mm	Exposed; IP40; solder	None	TH50008000
	MAA1	Momentary	18 × 24 mm	Exposed; IP40; solder	1 NO + 1 NC	TH500108000
	MAA2	Momentary	18 × 24 mm	Exposed; IP40; solder	2 NO + 2 NC	TH500208000
	MAA3	Momentary	18 × 24 mm	Exposed; IP40; solder	3 NO + 3 NC	TH500308000
	LAA0	Latching	18 × 24 mm	Exposed; IP40; solder	None	TH510080000
	LAA1	Latching	18 × 24 mm	Exposed; IP40; solder	1 NO + 1 NC	TH510108000
	LAA2	Latching	18 × 24 mm	Exposed; IP40; solder	2 NO + 2 NC	TH510208000
	LAA3	Latching	18 × 24 mm	Exposed; IP40; solder	3 NO + 3 NC	TH510308000
	MAB0	Momentary	18 × 24 mm	Concealed; IP40; solder	None	TH500020000
	MAB1	Momentary	18 × 24 mm	Concealed; IP40; solder	1 NO + 1 NC	TH500102000
	MAB2	Momentary	18 × 24 mm	Concealed; IP40; solder	2 NO + 2 NC	TH500202000
	MAB3	Momentary	18 × 24 mm	Concealed; IP40; solder	3 NO + 3 NC	TH500302000
	LAB0	Latching	18 × 24 mm	Concealed; IP40; solder	None	TH510002000
	LAB1	Latching	18 × 24 mm	Concealed; IP40; solder	1 NO + 1 NC	TH510102000
LAB2	Latching	18 × 24 mm	Concealed; IP40; solder	2 NO + 2 NC	TH510202000	
LAB3	Latching	18 × 24 mm	Concealed; IP40; solder	3 NO + 3 NC	TH510302000	
Switch body (B)	MBA0	Momentary	18 × 18 mm	Exposed; IP40; solder	None	TH502008000
	MBA1	Momentary	18 × 18 mm	Exposed; IP40; solder	1 NO + 1 NC	TH502108000
	MBA2	Momentary	18 × 18 mm	Exposed; IP40; solder	2 NO + 2 NC	TH502208000
	MBA3	Momentary	18 × 18 mm	Exposed; IP40; solder	3 NO + 3 NC	TH502308000
	LBA0	Latching	18 × 18 mm	Exposed; IP40; solder	None	TH512008000
	LBA1	Latching	18 × 18 mm	Exposed; IP40; solder	1 NO + 1 NC	TH512108000
	LBA2	Latching	18 × 18 mm	Exposed; IP40; solder	2 NO + 2 NC	TH512208000
	LBA3	Latching	18 × 18 mm	Exposed; IP40; solder	3 NO + 3 NC	TH512308000
	MBB0	Momentary	18 × 18 mm	Concealed; IP40; solder	None	TH502002000
	MBB1	Momentary	18 × 18 mm	Concealed; IP40; solder	1 NO + 1 NC	TH502102000
	MBB2	Momentary	18 × 18 mm	Concealed; IP40; solder	2 NO + 2 NC	TH502202000
	MBB3	Momentary	18 × 18 mm	Concealed; IP40; solder	3 NO + 3 NC	TH502302000
	LBB0	Latching	18 × 18 mm	Concealed; IP40; solder	None	TH512002000
	LBB1	Latching	18 × 18 mm	Concealed; IP40; solder	1 NO + 1 NC	TH512102000
	LBB2	Latching	18 × 18 mm	Concealed; IP40; solder	2 NO + 2 NC	TH512202000
LBB3	Latching	18 × 18 mm	Concealed; IP40; solder	3 NO + 3 NC	TH512302000	
Switch body (C)	MDA0	Momentary	∅ 18 mm	Exposed; IP40; solder	None	TH504008000
	MDA1	Momentary	∅ 18 mm	Exposed; IP40; solder	1 NO + 1 NC	TH504108000
	MDA2	Momentary	∅ 18 mm	Exposed; IP40; solder	2 NO + 2 NC	TH504208000
	MDA3	Momentary	∅ 18 mm	Exposed; IP40; solder	3 NO + 3 NC	TH504308000
	LDA0	Latching	∅ 18 mm	Exposed; IP40; solder	None	TH514008000
	LDA1	Latching	∅ 18 mm	Exposed; IP40; solder	1 NO + 1 NC	TH514108000
	LDA2	Latching	∅ 18 mm	Exposed; IP40; solder	2 NO + 2 NC	TH514208000
	LDA3	Latching	∅ 18 mm	Exposed; IP40; solder	3 NO + 3 NC	TH514308000
	MDB0	Momentary	∅ 18 mm	Concealed; IP40; solder	None	TH504002000
	MDB1	Momentary	∅ 18 mm	Concealed; IP40; solder	1 NO + 1 NC	TH504102000
	MDB2	Momentary	∅ 18 mm	Concealed; IP40; solder	2 NO + 2 NC	TH504202000
	MDB3	Momentary	∅ 18 mm	Concealed; IP40; solder	3 NO + 3 NC	TH504302000
	LDB0	Latching	∅ 18 mm	Concealed; IP40; solder	None	TH514002000
	LDB1	Latching	∅ 18 mm	Concealed; IP40; solder	1 NO + 1 NC	TH514102000
	LDB2	Latching	∅ 18 mm	Concealed; IP40; solder	2 NO + 2 NC	TH514202000
LDB3	Latching	∅ 18 mm	Concealed; IP40; solder	3 NO + 3 NC	TH514302000	
Transparent Lens For Switch body style (A)	A0	White	15 × 21 mm	Exposed	Exposed	Concealed
	A1	Yellow	15 × 21 mm	18 × 24 mm	TH461021000	TH461017000
	A2	Green	15 × 21 mm	18 × 24 mm	TH461121000	TH461117000
	A3	Blue	15 × 21 mm	18 × 24 mm	TH461221000	TH461217000
	A4	Red	15 × 21 mm	18 × 24 mm	TH461321000	TH461317000
	A6	Orange	15 × 21 mm	18 × 24 mm	TH461421000	TH461417000
For Switch body style (B)	B0	White	15 × 15 mm	18 × 18 mm	TH463021000	TH463018000
	B1	Yellow	15 × 15 mm	18 × 18 mm	TH463121000	TH463118000
	B2	Green	15 × 15 mm	18 × 18 mm	TH463221000	TH463218000
	B3	Blue	15 × 15 mm	18 × 18 mm	TH463321000	TH463318000
	B4	Red	15 × 15 mm	18 × 18 mm	TH463421000	TH463418000
	B6	Orange	15 × 15 mm	18 × 18 mm	TH463621000	TH463618000
For Switch body style (C)	D0	White	∅ 15 mm	∅ 18 mm	TH465021000	TH465015000
	D1	Yellow	∅ 15 mm	∅ 18 mm	TH465121000	TH465115000
	D2	Green	∅ 15 mm	∅ 18 mm	TH465221000	TH465215000
	D3	Blue	∅ 15 mm	∅ 18 mm	TH465321000	TH465315000
	D4	Red	∅ 15 mm	∅ 18 mm	TH465421000	TH465415000
	D6	Orange	∅ 15 mm	∅ 18 mm	TH465621000	TH465615000
Illumination	X	Non illuminated				
	A	6V				
	B	12V				
	C	24V				
	F	48V				
Illumination Colour	X	Non illuminated				
	N	Incandescent lamp	6V, 200 mA TH590000000	12V, 80 mA TH59001000	24V, 50 mA TH590006000	48V, 25 mA TH590004000
	1	Yellow LED	6V AC/DC, 45 mA TH590231000	12V AC/DC, 25 mA TH590233000	24V AC/DC, 12.5 mA TH590237000	48V AC/DC, 12.5 mA TH590240000
	2	Green LED	TH590232000	TH590235000	TH590238000	TH590241000
	4	Red LED	TH590230000	TH590233000	TH590236000	TH590239000

Ordering Reference

Range	TP5						
Panel cut-out	2 22.5 mm						
Switch body	Function	Actuator	Housing (Aluminium)		Contact blocks	Part No.	
	MFC0 Momentary	Ø 25 mm	Exposed Aluminium; IP40 / IP65*; solder		None	TH504018000	
	MFC1 Momentary	Ø 25 mm	Exposed Aluminium; IP40 / IP65*; solder		1 NO + 1 NC	TH504118000	
	MFC2 Momentary	Ø 25 mm	Exposed Aluminium; IP40 / IP65*; solder		2 NO + 2 NC	TH504218000	
	MFC3 Momentary	Ø 25 mm	Exposed Aluminium; IP40 / IP65*; solder		3 NO + 3 NC	TH504318000	
	LFC0 Latching_	Ø 25 mm	Exposed Aluminium; IP40 / IP65*; solder		None	TH514018000	
	LFC1 Latching_	Ø 25 mm	Exposed Aluminium; IP40 / IP65*; solder		1 NO + 1 NC	TH514118000	
	LFC2 Latching_	Ø 25 mm	Exposed Aluminium; IP40 / IP65*; solder		2 NO + 2 NC	TH514218000	
	LFC3 Latching_	Ø 25 mm	Exposed Aluminium; IP40 / IP65*; solder		3 NO + 3 NC	TH514318000	
	MFD0 Momentary	Ø 25 mm	Flush Aluminium; IP40; solder		None	TH504050000	
	MFD1 Momentary	Ø 25 mm	Flush Aluminium; IP40; solder		1 NO + 1 NC	TH504150000	
	MFD2 Momentary	Ø 25 mm	Flush Aluminium; IP40; solder		2 NO + 2 NC	TH504250000	
	MFD3 Momentary	Ø 25 mm	Flush Aluminium; IP40; solder		3 NO + 3 NC	TH504350000	
	LFD0 Latching_	Ø 25 mm	Flush Aluminium; IP40; solder		None	TH514050000	
	LFD1 Latching_	Ø 25 mm	Flush Aluminium; IP40; solder		1 NO + 1 NC	TH514150000	
	LFD2 Latching_	Ø 25 mm	Flush Aluminium; IP40; solder		2 NO + 2 NC	TH514250000	
	LFD3 Latching_	Ø 25 mm	Flush Aluminium; IP40; solder		3 NO + 3 NC	TH514350000	
	MFK0 Momentary	Ø 25 mm	Exposed Aluminium with silicon cap; IP65*; solder		None	TH504033000	
	MFK1 Momentary	Ø 25 mm	Exposed Aluminium with silicon cap; IP65*; solder		1 NO + 1 NC	TH504133000	
	MFK2 Momentary	Ø 25 mm	Exposed Aluminium with silicon cap; IP65*; solder		2 NO + 2 NC	TH504233000	
	MFK3 Momentary	Ø 25 mm	Exposed Aluminium with silicon cap; IP65*; solder		3 NO + 3 NC	TH504333000	
	LFK0 Latching_	Ø 25 mm	Exposed Aluminium with silicon cap; IP65*; solder		None	TH514033000	
	LFK1 Latching_	Ø 25 mm	Exposed Aluminium with silicon cap; IP65*; solder		1 NO + 1 NC	TH514133000	
	LFK2 Latching_	Ø 25 mm	Exposed Aluminium with silicon cap; IP65*; solder		2 NO + 2 NC	TH514233000	
	LFK3 Latching_	Ø 25 mm	Exposed Aluminium with silicon cap; IP65*; solder		3 NO + 3 NC	TH514333000	
	Lens, transparent	F0 White	Ø 18	IP40/IP65		IP65 with sealing ring	
		F1 Yellow	Ø 18	TH465015000		TH465001000	
F2 Green		Ø 18	TH465115000		TH465101000		
F3 Blue		Ø 18	TH465215000		TH465201000		
F4 Red		Ø 18	TH465315000		TH465301000		
F5 Orange		Ø 18	TH465415000		TH465401000		
F6		Ø 18	TH465615000		TH465601000		
Illumination	X	Non illuminated					
	A	6V					
	B	12V					
	C	24V					
	F	48V					
Illumination Colour	N	Non illuminated					
		Incandescent lamp	6V, 200 mA TH590000000	12V, 80 mA TH59001000	24V, 50 mA TH590006000	48V, 25 mA TH590004000	
	1	Yellow LED	6V AC/DC, 45 mA TH590231000	12V AC/DC, 25 mA TH590234000	24V AC/DC, 12.5 mA TH590237000	48V AC/DC, 12.5 mA TH590240000	
	2	Green LED	TH590232000	TH590235000	TH590238000	TH590241000	
	4	Red LED	TH590230000	TH590233000	TH590236000	TH590239000	

TP4

Panel Mounted

Push Button

TP4

Panel cut-out (mm)	∅ 16.2/22.5
Characteristics	<ul style="list-style-type: none">■ mushroom■ momentary or latching■ sealed IP40 or IP65■ wide range of bezels■ NO, NC■ gold plated contact blocks
Rating	250 VAC, 5 A
Dimensions (mm)	18 × 24 24 × 24 ∅ 24 ∅ 30
Actuator	mushroom cap in different shapes and colours
Approvals	UL, CSA, VDE



Popular products

Ordering Reference	Panel cut-out (mm)	Function	Actuator size (mm)	Actuator style	Environmental protection	Terminals	Electrical rating
TP41LAJ2A4NXX	∅ 16.2	Latching	18 × 24	mushroom, red	IP40	Solder	250 VAC, 5A
TP41LEJ2E4NXX	∅ 16.2	Latching	∅ 24	mushroom, red	IP40	Solder	250 VAC, 5A
TP41MAJ2A4NXX	∅ 16.2	Momentary	18 × 24	mushroom, red	IP40	Solder	250 VAC, 5A
TP41MEJ2E4NXX	∅ 16.2	Momentary	∅ 24	mushroom, red	IP40	Solder	250 VAC, 5A
TP42LHJ2H4NXX	∅ 22.5	Latching	∅ 30	mushroom, red	IP65	Solder	250 VAC, 5A
TP42MHJ2H4NXX	∅ 22.5	Momentary	∅ 30	mushroom, red	IP65	Solder	250 VAC, 5A

Specifications

Mechanism	Momentary or latching
Actuating force	Approximately 2.5N – 1 contact block
Mounting	Central fixing with metal lock nut
Protection	IP40, IP65
Bezel material	Thermoplastic or anodized aluminium alloy
Lens material	Polycarbonate – engravable
Illumination	Non-illuminated
Temperature range °C	-30°C to +80°C
Mechanical life	10 ⁶ cycles
Contact block (blocks)	Supplied fitted
Contact block housing	Self-extinguishing duroplastic (UL 94 V0)
Terminal material	Silver alloy with 0.2 µm silver plating, plus 0.4 µm gold plating
Contact resistance	< 30mOhm
Number of contact blocks	1 NO + 1 NC per contact block, up to a maximum of 3 contact blocks per switch
Terminals	Patented flexible solder - suitable for wire diameter 2 × 1.00 mm ² (braided), 4 × 0.75 mm (stranded)
Vibration resistance	1.5mm pp amplitude at 55 Hz

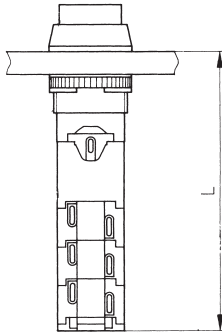
Recommended maximum electrical ratings

Voltage (max) 250 VAC	Resistive load (A) 5.0 (0.7 pf)	Inductive load (A)	Approval UL, CSA, VDE - max. admissible circuit breaker C6A
12 VDC	5.0	3.0	General rating
24 VDC	4.0	2.0	General rating
36 VDC	3.0	1.7	General rating
48 VDC	2.0	1.5	General rating
60 VDC	1.5	1.2	General rating
125 VDC	0.5	0.3	General rating
250 VDC	0.3	0.2	General rating

Electrical life 70,000 cycles at 5A, 250 VAC, 0.7 pf

TP4

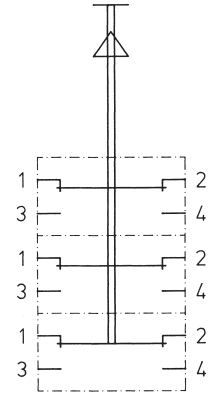
Dimensions



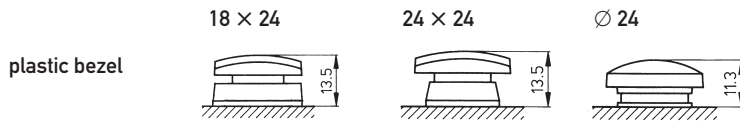
Length in mm

Panel cut-out	16.2 ±0.1	22.5 ±0.1
N° of contact blocks 1	44.5	43.5
2	53.0	52.0
3	61.5	60.5

Circuit diagrams (3 contact blocks)



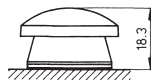
Bezel and lens heights in mm (switch off position)



plastic bezel

panel cut-out 16.2 ± 0.1 mm

aluminium bezel



panel cut-out 22.5 mm

Front panel thickness 1.0 mm to 10 mm (Aluminium bezel 1.0 mm to 6.5 mm)

Ordering Reference

Range TP4					
Panel cut-out	1	16.2 mm	Switch body 18 × 24; 24 × 24; Ø 24		
	2	22.5 mm	Switch body Ø 30 only		
		Function	Actuator style	Environmental protection	Contact blocks
Switch body	MAJ0	Momentary	18 × 24 mm	IP40	None
Panel cut-out	MAJ1	Momentary	18 × 24 mm	IP40	1NO + 1NC
16.2 mm (A)	MAJ2	Momentary	18 × 24 mm	IP40	2 NO + 2 NC
	MAJ3	Momentary	18 × 24 mm	IP40	3 NO + 3 NC
	LAJ0	Latching	18 × 24 mm	IP40	None
	LAJ1	Latching	18 × 24 mm	IP40	1NO + 1NC
	LAJ2	Latching	18 × 24 mm	IP40	2 NO + 2 NC
	LAJ3	Latching	18 × 24 mm	IP40	3 NO + 3 NC
Panel cut-out 16.2 mm (B)	MCJ0	Momentary	24 × 24 mm	IP40	None
	MCJ1	Momentary	24 × 24 mm	IP40	1NO + 1NC
	MCJ2	Momentary	24 × 24 mm	IP40	2 NO + 2 NC
	MCJ3	Momentary	24 × 24 mm	IP40	3 NO + 3 NC
	LCJ0	Latching	24 × 24 mm	IP40	None
	LCJ1	Latching	24 × 24 mm	IP40	1NO + 1NC
	LCJ2	Latching	24 × 24 mm	IP40	2 NO + 2 NC
	LCJ3	Latching	24 × 24 mm	IP40	3 NO + 3 NC
	Panel cut-out 16.2 mm (C)	MEJ0	Momentary	Ø 24	IP40
MEJ1		Momentary	Ø 24	IP40	1NO + 1NC
MEJ2		Momentary	Ø 24	IP40	2 NO + 2 NC
MEJ3		Momentary	Ø 24	IP40	3 NO + 3 NC
LEJ0		Latching	Ø 24	IP40	None
LEJ1		Latching	Ø 24	IP40	1NO + 1NC
LEJ2		Latching	Ø 24	IP40	2 NO + 2 NC
LEJ3		Latching	Ø 24	IP40	3 NO + 3 NC
Panel cut-out 22.5 mm		MHJ0	Momentary	Ø 30	IP65
	MHJ1	Momentary	Ø 30	IP65	1NO + 1NC
	MHJ2	Momentary	Ø 30	IP65	2 NO + 2 NC
	MHJ3	Momentary	Ø 30	IP65	3 NO + 3 NC
	LHJ0	Latching	Ø 30	IP65	None
	LHJ1	Latching	Ø 30	IP65	1NO + 1NC
	LHJ2	Latching	Ø 30	IP65	2 NO + 2 NC
	LHJ3	Latching	Ø 30	IP65	3 NO + 3 NC
	Panel cut out 16.2 Actuator colour For Switch body (A)	A0	White	18 × 24 mm	Mushroom
A1		Yellow	18 × 24 mm	Mushroom	THXXXXXX YEL
A2		Green	18 × 24 mm	Mushroom	THXXXXXX GRN
A3		Blue	18 × 24 mm	Mushroom	THXXXXXX BLU
A4		Red	18 × 24 mm	Mushroom	THXXXXXX RED
A5		Black	18 × 24 mm	Mushroom	THXXXXXX BLK
For Switch body style (B)	C0	White	24 × 24 mm	Mushroom	THXXXXXX WHT
	C1	Yellow	24 × 24 mm	Mushroom	THXXXXXX YEL
	C2	Green	24 × 24 mm	Mushroom	THXXXXXX GRN
	C3	Blue	24 × 24 mm	Mushroom	THXXXXXX BLU
	C4	Red	24 × 24 mm	Mushroom	THXXXXXX RED
	C5	Black	24 × 24 mm	Mushroom	THXXXXXX BLK
For Switch body style (C)	E0	White	Ø 24 mm	Mushroom	THXXXXXX WHT
	E1	Yellow	Ø 24 mm	Mushroom	THXXXXXX YEL
	E2	Green	Ø 24 mm	Mushroom	THXXXXXX GRN
	E3	Blue	Ø 24 mm	Mushroom	THXXXXXX BLU
	E4	Red	Ø 24 mm	Mushroom	THXXXXXX RED
	E5	Black	Ø 24 mm	Mushroom	THXXXXXX BLK
Panel cut-out 22.5	H0	White	Ø 30 mm	Mushroom	THXXXXXX WHT
	H1	Yellow	Ø 30 mm	Mushroom	THXXXXXX YEL
	H2	Green	Ø 30 mm	Mushroom	THXXXXXX GRN
	H3	Blue	Ø 30 mm	Mushroom	THXXXXXX BLU
	H4	Red	Ø 30 mm	Mushroom	THXXXXXX RED
	H5	Black	Ø 30 mm	Mushroom	THXXXXXX BLK
Housing Colour	N	Natural			
Illumination	X	Non illuminated			
Illumination colour	X	Non illuminated			

TP8

Panel Mounted

Push Button

TP8

Panel cut-out (mm)	Ø 22.5
Characteristics	<ul style="list-style-type: none">momentarysealed IP67round metal bezels1 NO + 1 NC, 2 NC, 2 NOgold plated contact block
Rating	230 VAC, 6 A
Dimensions (mm)	Ø 25
Actuator	button and housing in different colours (non-illuminated only)
Approvals	none



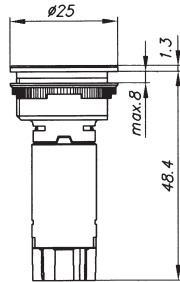
Popular products

Ordering Reference	Panel cut-out (mm)	Function	Actuator style	Terminals (mm)	Electrical rating
TP82MDOA30	Ø 22.5	Momentary	Non-illuminated Natural Aluminium	2.8 × 0.5 Faston	230 VAC 6 A

Specifications

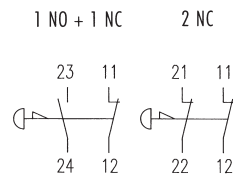
Mechanism	Momentary positive action with wiping contacts
Contact gap	>3 mm
Actuating force	Approximately 6.0N
Mounting	Central fixing with metal lock nut
Protection	IP67
Housing and actuator material	Anodised aluminium or stainless steel (upon request) Non-illuminated
Temperature range °C	-25°C to +55°C
Contact block	Supplied fitted
Contact block housing	Thermoplastic
Terminal material	Silver nickel with 0.4 µm gold plating
Contact resistance	<30mOhm
Number of contact blocks	1 NO + 1 NC or 2 NC or 2 NO (independent circuits)
Terminals	Faston - 2.8 mm × 0.5 mm, to DIN 46247

Dimensions



Panel cut-out 22.5 ± 0.1 mm

Circuit diagram



Recommended maximum electrical ratings

Voltage (max) 230 VAC	Resistive load (A) 6.0	Inductive load (A)	Approval IEC 947-5-1, AC15 – recommended circuit breaker C6A
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Electrical life	20,000 cycles at 10A, 24V, DC13
	50,000 cycles at 5A, 24V, DC13
	100,000 cycles at 5A, 12V, DC13
	50,000 cycles at 6A, 250V, AC12
	300,000 cycles at 2.5A, 250V, AC12

Ordering Reference

Range	TP8		
Panel cut-out	2	22.5 mm	
Switch body	MD0A	Ø 25 mm Momentary switch IP67; 1NO; Flush Aluminium natural; faston 2.8 mm × 0.5 mm	TH80750 X 00 X
	MD1A	Ø 25 mm Momentary switch IP67; 1NO; Flush Aluminium yellow; faston 2.8 mm × 0.5 mm	TH80750 X 10 X
	MD2A	Ø 25 mm Momentary switch IP67; 1NO; Flush Aluminium green; faston 2.8 mm × 0.5 mm	TH80750 X 20 X
	MD4A	Ø 25 mm Momentary switch IP67; 1NO; Flush Aluminium red; faston 2.8 mm × 0.5 mm	TH80750 X 40 X
	MD5A	Ø 25 mm Momentary switch IP67; 1NO; Flush Aluminium black; faston 2.8 mm × 0.5 mm	TH80750 X 50 X
	MD8A	Ø 25 mm Momentary switch IP67; 1NO; Flush Aluminium dark blue; faston 2.8 mm × 0.5 mm	TH80750 X 80 X
Contact (X)	3	Contact Block 1NO+1NC	
	4	Contact Block 2NC	
	5	Contact Block 2NO	
Actuator colour (X)	0	Neutral	
	1	Yellow	
	2	Green	
	4	Red	
	5	Black	
	8	Dark blue	

Note: Stainless steel versions available upon request.

TP9

Panel Mounted

Push Button

TP9

Panel cut-out (mm)	∅ 16.2/22.5
Characteristics	<ul style="list-style-type: none">momentary short stroke switchsealed IP65 or IP67round metal bezelsNOsnap-in mounting option ∅ 22.5 mm (IP65 only)
Rating	50 VAC/VDC, 50 mA
Dimensions (mm)	∅ 18 ∅ 25
Actuator	button and housing in different colours (non-illuminated only)
Approvals	none



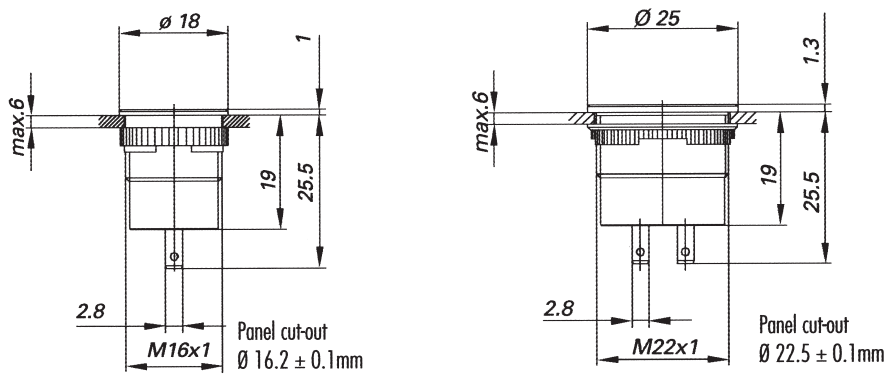
Popular products

Ordering Reference	Panel cut-out (mm)	Function	Actuator size (mm)	Actuator style	Environmental protection	Terminals (mm)	Electrical rating
TP92MFOA000	∅ 22.5	Momentary 1NO	∅ 25	Non-illuminated natural aluminium	IP67	2.8 × 0.5 faston	50 VAC/VDC, 50 mA
TP92MFOA002	∅ 22.5	Momentary 1NO	∅ 25	Non-illuminated green anodised aluminium	IP67	2.8 × 0.5 faston	50 VAC/VDC, 50 mA
TP92MFOA004	∅ 22.5	Momentary 1NO	∅ 25	Non-illuminated red anodised aluminium	IP67	2.8 × 0.5 faston	50 VAC/VDC, 50 mA
TP92MFOA005	∅ 22.5	Momentary 1NO	∅ 25	Non-illuminated black anodised aluminium	IP67	2.8 × 0.5 faston	50 VAC/VDC, 50 mA

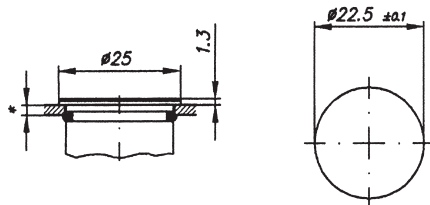
Specifications

Mechanism	Momentary with 1mm short-stroke action
Actuating force	3.5N maximum
Mounting	Central fixing with metal lock nut or front assembly snap-in
Protection	IP65 (snap-in) or IP67 (lock nut)
Housing and actuator material	Anodised aluminium or stainless steel (upon request)
Illumination	Non-illuminated versions available only
Temperature range °C	-30°C to +70°C
Mechanical life	>200,000 (18 mm switch), >500,000 (25 mm switch)
Number of contact blocks	1 NO
Terminals	Faston – 2.8 mm × 0.5 mm

Dimensions Locknut mounting



Dimensions Snap-in mounting



Recommended maximum electrical ratings

Voltage (max)	Resistive load (A)
50 VAC	50 mA

Ordering Reference

Range	TP9			
Panel cut-out	1	16.2mm		
Switch body	MD0A	Ø 18 mm Momentary switch IP67; 1NO; Flush Aluminium natural; faston 2.8mm × 0.5mm	TH921000	XX3
	MD1A	Ø 18 mm Momentary switch IP67; 1NO; Flush Aluminium yellow; faston 2.8mm × 0.5mm	TH921001	XX3
	MD2A	Ø 18 mm Momentary switch IP67; 1NO; Flush Aluminium green; faston 2.8mm × 0.5mm	TH921002	XX3
	MD4A	Ø 18 mm Momentary switch IP67; 1NO; Flush Aluminium red; faston 2.8mm × 0.5mm	TH921004	XX3
	MD5A	Ø 18 mm Momentary switch IP67; 1NO; Flush Aluminium black; faston 2.8mm × 0.5mm	TH921005	XX3
	MD8A	Ø 18 mm Momentary switch IP67; 1NO; Flush Aluminium dark blue; faston 2.8mm × 0.5mm	TH921008	XX3
Actuator Colour (XX)	00	Neutral		
	01	Yellow		
	02	Green		
	04	Red		
	05	Black		
	08	Dark blue		

Stainless steel actuator and body styles, available upon request.

Ordering Reference

Range	TP9		
Panel cut-out	2	22.5 mm	
Switch body	MF0A	Ø 25 mm Momentary switch IP67; 1NO; Flush Aluminium natural; faston 2.8mm × 0.5mm	TH920 X00 XX1
	MF1A	Ø 25 mm Momentary switch IP67; 1NO; Flush Aluminium yellow; faston 2.8mm × 0.5mm	TH920 X01 XX1
	MF2A	Ø 25 mm Momentary switch IP67; 1NO; Flush Aluminium green; faston 2.8mm × 0.5mm	TH920 X02 XX1
	MF4A	Ø 25 mm Momentary switch IP67; 1NO; Flush Aluminium red; faston 2.8mm × 0.5mm	TH920 X04 XX1
	MF5A	Ø 25 mm Momentary switch IP67; 1NO; Flush Aluminium black; faston 2.8mm × 0.5mm	TH920 X05 XX1
	MF8A	Ø 25 mm Momentary switch IP67; 1NO; Flush Aluminium dark blue; faston 2.8mm × 0.5mm	TH920 X08 XX1
Mounting (X)	0	Locknut (IP67)	
	4	Snap-in-mounting 1.5mm - 2.0 mm panel thickness IP65 only	
	5	Snap-in-mounting 2.0mm - 2.5 mm panel thickness IP65 only	
	6	Snap-in-mounting 2.5mm - 3.0 mm panel thickness IP65 only	
Actuator colour (XX)	00	Neutral	
	01	Yellow	
	02	Green	
	04	Red	
	05	Black	
	08	Dark blue	

Stainless steel actuator and body styles, available upon request.

TP7

Panel Mounted

Push Button

TP7

Panel cut-out (mm)	∅ 16.2/22.5/30.3/43.3
Characteristics	<ul style="list-style-type: none">■ piezo technology■ momentary■ sealed IP68■ with or without illumination, two colours■ solid state output
Rating	3 to 35 VAC/VDC, 200 mA
Dimensions (mm)	∅ 18 ∅ 25 ∅ 36 ∅ 48
Actuator	housing in different colours
Approvals	None



Popular products

Ordering Reference	Panel cut-out (mm)	Function	Actuator size (mm)	Actuator style	Environmental protection	Terminals	Electrical rating
TP71MD1B04XX	∅ 16.2	Momentary 1NO	∅ 18	Non-illuminated, red anodised aluminium	IP68	Prewired	35 VAC/VDC max, 200 mA
TP71MD1B02XX	∅ 16.2	Momentary 1NO	∅ 18	Non-illuminated, green anodised aluminium	IP68	Prewired	35 VAC/VDC max, 200 mA
TP71MD1B05XX	∅ 16.2	Momentary 1NO	∅ 18	Non-illuminated, black anodised aluminium	IP68	Prewired	35 VAC/VDC max, 200 mA
TP71MD1B00XX	∅ 16.2	Momentary 1NO	∅ 18	Non-illuminated, natural aluminium	IP68	Prewired	35 VAC/VDC max, 200 mA
TP72MF1B00XX	∅ 22.5	Momentary 1NO	∅ 25	Non-illuminated, natural aluminium	IP68	Prewired	35 VAC/VDC max, 200 mA
TP72MG4B00C2	∅ 22.5	Momentary 1NO	∅ 25	Green illumination natural aluminium	IP68	Molex style 5 pin	35 VAC/VDC max, 200 mA
TP72MG2B00C4	∅ 22.5	Momentary 1NO	∅ 25	Red illumination natural aluminium	IP68	Molex style 5 pin	35 VAC/VDC max, 200 mA

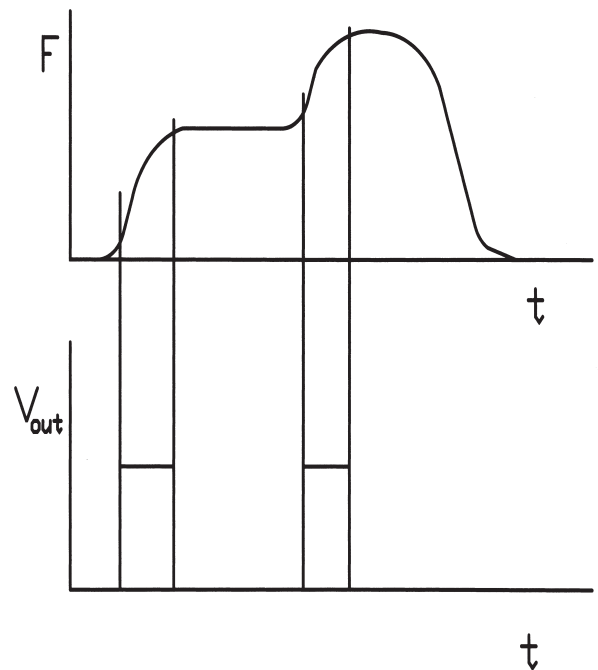
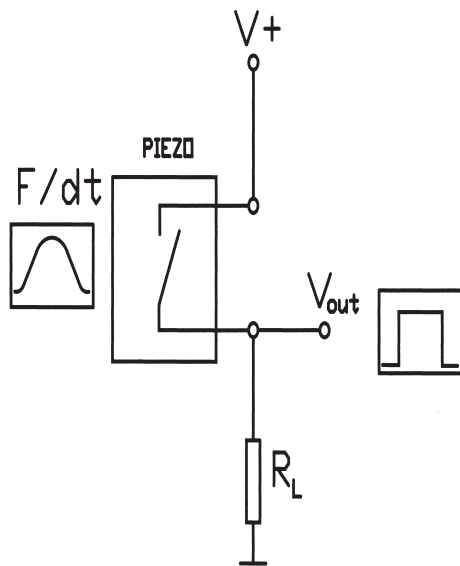
Specifications

Mechanism	Piezo electronic, without auxilliary energy		
Actuating force	5N maximum at an actuating speed 500 to 1500 mm/s		
Closing impulse duration	10 to 1000 m/s - dependent on force and speed of actuation		
Mounting	Central fixing from the rear with metal lock nut		
Protection	IP68 (after installation)		
Housing and actuator material	Anodised aluminium and stainless steel		
Illumination	LED (18mm switch non-illuminated only)		
Temperature range °C	-40°C to +105°C (non-illuminated), -40°C to +85°C (illuminated)		
Life expectancy	>15 × 10 ⁶ cycles		
Contact resistance	<10 Ohm (on)		
Insulation resistance	>5M0hm (off)		
Terminals	Prewired; 2.8mm × 0.8mm faston; Molex-style 3.5 & 6 pin; AMP-style 4 pin		
Power consumption (illuminated types)	red or green:	12V IP = 40 mA	24V IF = 20 mA
	red/green:	12V IP = 2 × 20 mA	24V IF = 2 × 20 mA

Technical information

The piezo sensor converts pressure into voltage signals. These analogue voltage signals are then processed within the switch to form switching signals, using field effect transistors (FET).

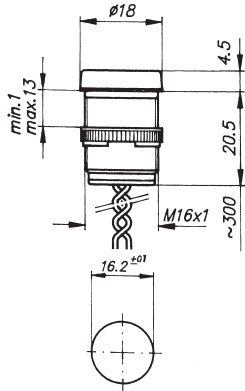
Due to the internal resistor, the circuit state is dependent upon actuating force and speed, means of operation and the discharge time of the R-C system. Standard digital or relay technology can be employed to create individual timed delay, flip-flop and power amplification circuits. The circuit state diagram shows the approximate relationship between the force/time curve to the voltage circuit state:



Recommended maximum electrical ratings

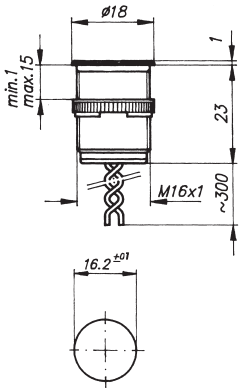
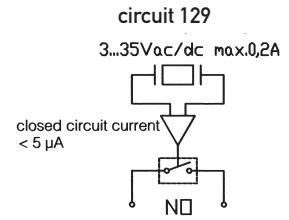
Voltage (max)	Resistive load (A)
3 to 35 VUC	0.2 A (0.7 pf)

Dimensions Non-illuminated

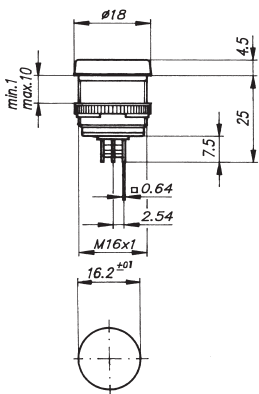
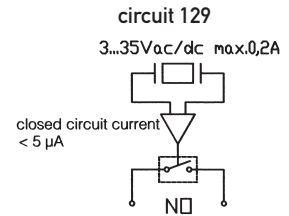


Ø 18, raised housing, prewired

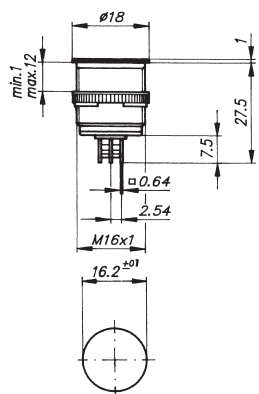
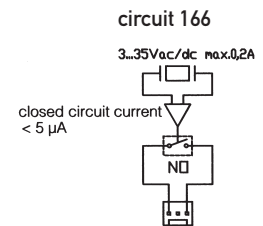
Circuit diagram



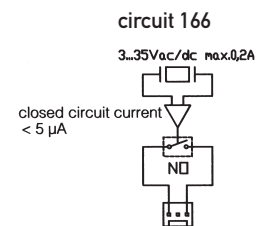
Ø 18, flush housing, prewired



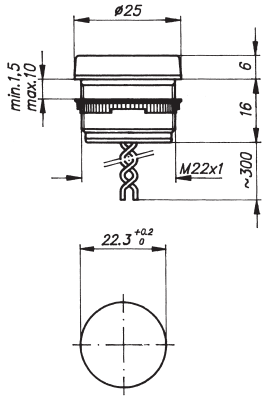
Ø 18, raised housing, Molex-style 3 pin



Ø 18, flush housing, Molex-style 3 pin

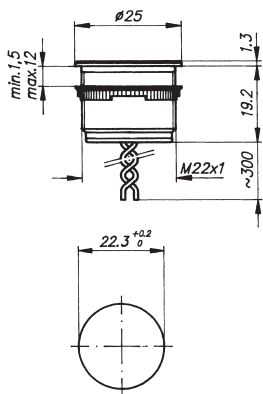
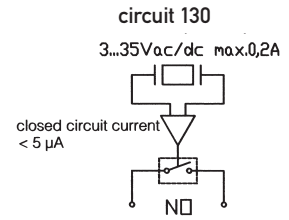


Dimensions Non-illuminated

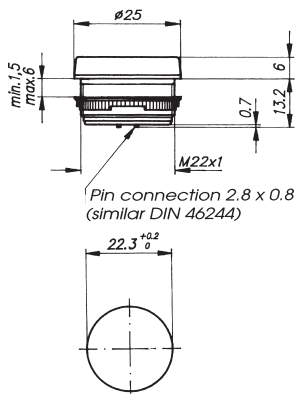
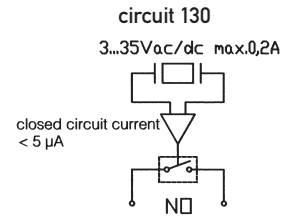


Ø 25, raised housing, prewired

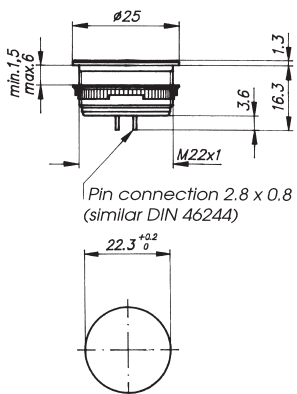
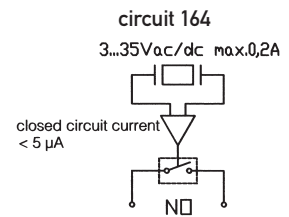
Circuit diagram



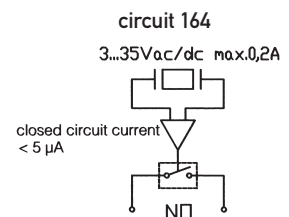
Ø 25, flush housing, prewired



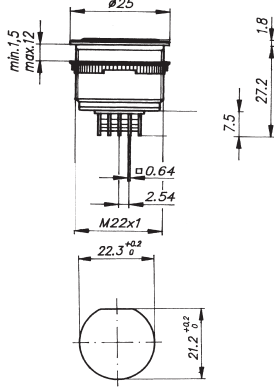
Ø 25, raised housing, solder connections 2.8 × 0.8



Ø 25, raised housing, solder connections 2.8 × 0.8

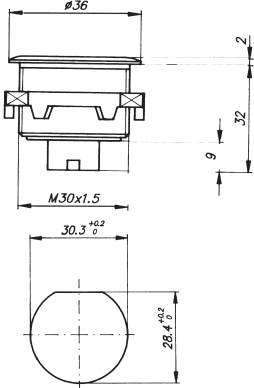
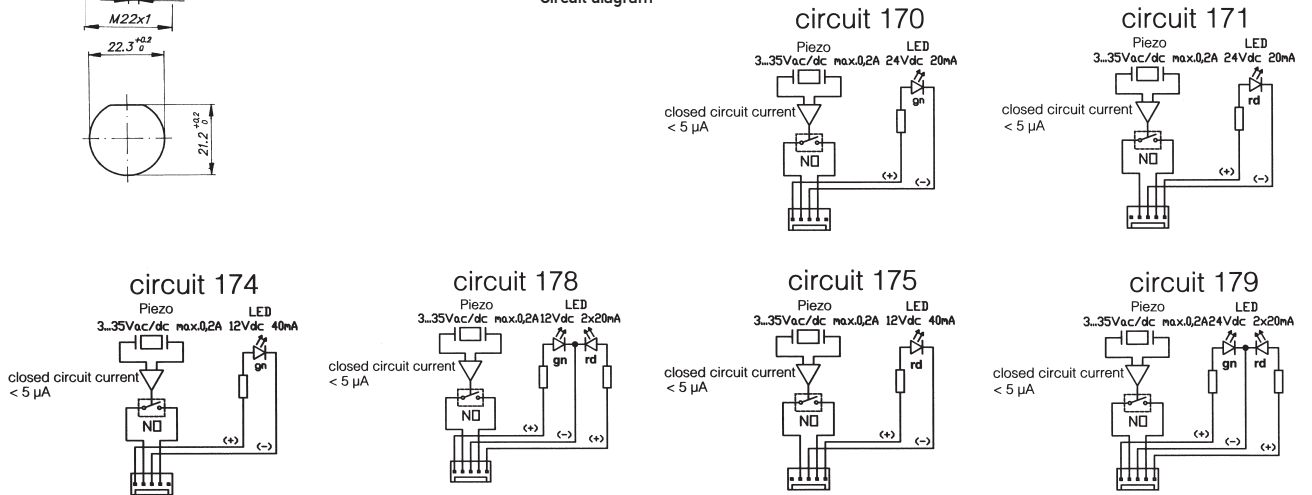


Dimensions Illuminated



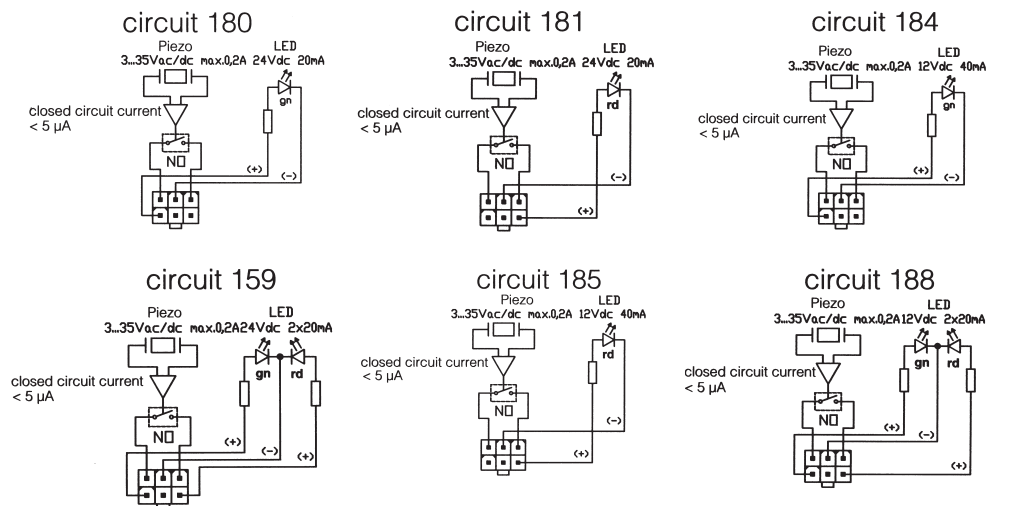
Ø 25. flush housing, Molex-style 5 pin

Circuit diagram

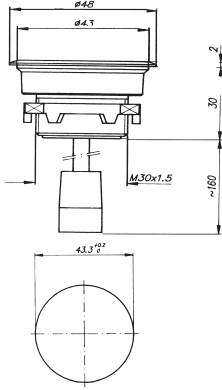


Ø 36. flush housing, Molex-style 6 pin

Circuit diagrams



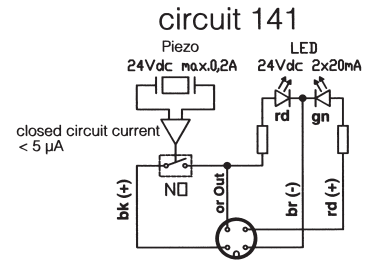
Dimensions Illuminated



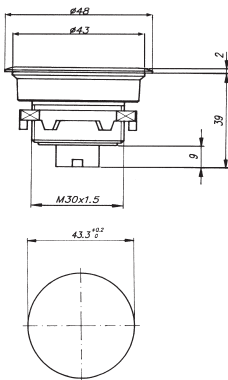
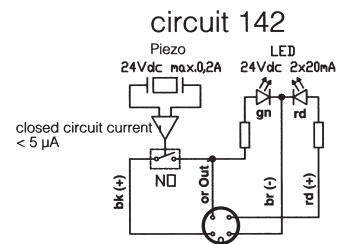
∅ 48, flush housing, wired with round connector
AMP-style 4 pin

Internally wired visual indicator, red

Circuit diagram

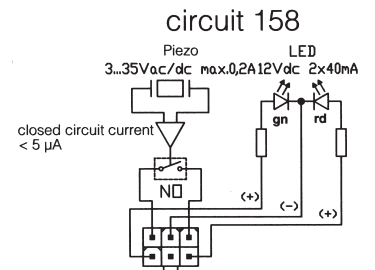


Internally wired visual indicator, green

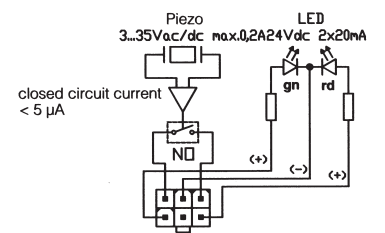


∅ 48, flush housing, Molex-style 6 pin

Circuit diagram



circuit 159



Ordering Reference

Range	TP7							
Panel cut-out	1	16.2 mm (for Ø 18 mm only)						
	2	22.5 mm (for Ø 25 mm only)						
		Function	Actuator	Housing	Connector	Environmental protection	Part No. colour (XX)	
Switch body	MD1A	Momentary 1NO: 35V / 0.2A	Ø 18 mm	Raised Aluminium	Prewired	IP68	TH7020XX129	
	MD2A	Momentary 1NO: 35V / 0.2A	Ø 18 mm	Raised Aluminium	3 Pin MOLEX	IP68	TH7025XX166	
	MD1B	Momentary 1NO: 35V / 0.2A	Ø 18 mm	Flush Aluminium	Prewired	IP68	TH7021XX129	
	MD2B	Momentary 1NO: 35V / 0.2A	Ø 18 mm	Flush Aluminium	3 Pin MOLEX	IP68	TH7026XX166	
Non-illuminated	MF1A	Momentary 1NO: 35V / 0.2A	Ø 25 mm	Raised Aluminium	Prewired	IP68	TH7030XX130	
	MF2A	Momentary 1NC: 35V / 0.2A	Ø 25 mm	Raised Aluminium	Prewired	IP68	TH7030XX131	
	MF4A	Momentary 1NO: 35V / 0.2A	Ø 25 mm	Raised Aluminium	2.8 × 0.8 mm	IP68	TH7035XX164	
	MF1B	Momentary 1NO: 35V / 0.2A	Ø 25 mm	Flush Aluminium	Prewired	IP68	TH7031XX130	
	MF2B	Momentary 1NC: 35V / 0.2A	Ø 25 mm	Flush Aluminium	Prewired	IP68	TH7031XX131	
	MF4B	Momentary 1NO: 35V / 0.2A	Ø 25 mm	Flush Aluminium	2.8 × 0.8 mm	IP68	TH7036XX164	
	Illuminated	MG1B	Momentary 1NO: 35V / 0.2A 12V/40mA LED red	Ø 25 mm	Flush Aluminium	5 pin MOLEX	IP68	TH7055XX175
		MG2B	Momentary 1NO: 35V / 0.2A 24V/20mA LED red	Ø 25 mm	Flush Aluminium	5 pin MOLEX	IP68	TH7055XX171
MG3B		Momentary 1NO: 35V / 0.2A 12V/40mA LED green	Ø 25 mm	Flush Aluminium	5 pin MOLEX	IP68	TH7055XX174	
MG4B		Momentary 1NO: 35V / 0.2A 24V/20mA LED green	Ø 25 mm	Flush Aluminium	5 pin MOLEX	IP68	TH7055XX170	
MG5B		Momentary 1NO: 35V / 0.2A 12V/40mA LED red/green	Ø 25 mm	Flush Aluminium	5 pin MOLEX	IP68	TH7055XX178	
MG6B		Momentary 1NO: 35V / 0.2A 24V/20mA LED red/green	Ø 25 mm	Flush Aluminium	5 pin MOLEX	IP68	TH7055XX179	
Actuator colour (XX)	00	Natural	} Please select appropriate colour code reference to complete the switch part no. eg. TH702004129					
	01	Yellow						
	02	Green						
	04	Red						
	05	Black						
	08	Dark Blue						
Illumination	X	Non-illuminated						
	B	12V	(for illuminated switch bodies only)					
	C	24V	(for illuminated switch bodies only)					
Illumination colour	X	Non-illuminated						
	2	Green LED	(for illuminated switch bodies only)					
	4	Red LED	(for illuminated switch bodies only)					
	9	Red/Green LED	(for illuminated switch bodies only)					

Stainless steel versions, available upon request.

Ordering Reference

Range	TP7						
Panel cut-out	3	30.3 mm (for Ø 36 mm only)					
	4	43.3 mm (for Ø 48 mm only)					
		Function	Actuator	Housing	Connector	Environmental protection	Part No. colour (XX)
Switch body Illuminated	MH1B	Momentary 1NO: 35V / 0.2 A 12V/40mA LED red	Ø 36 mm	Flush Aluminium	6 pin MOLEX	IP68	TH7065XX185
	MH2B	Momentary 1NO: 35V / 0.2 A 24V/20mA LED red	Ø 36 mm	Flush Aluminium	6 pin MOLEX	IP68	TH7065XX181
	MH3B	Momentary 1NO: 35V / 0.2 A 12V/40mA LED green	Ø 36 mm	Flush Aluminium	6 pin MOLEX	IP68	TH7065XX184
	MH4B	Momentary 1NO: 35V / 0.2 A 24V/20mA LED green	Ø 36 mm	Flush Aluminium	6 pin MOLEX	IP68	TH7065XX180
	MH5B	Momentary 1NO: 35V / 0.2 A 12V/2×20mA LED red/green	Ø 36 mm	Flush Aluminium	6 pin MOLEX	IP68	TH7065XX188
	MH6B	Momentary 1NO: 35V / 0.2 A 24V/2×20mA LED red/green	Ø 36 mm	Flush Aluminium	6 pin MOLEX	IP68	TH7065XX159
Illuminated	MJ1B	Momentary 1NO: 35V, 0.2 A 24V, 2×20 mA LED green/red	Ø 48 mm	Flush Aluminium	6 pin MOLEX	IP68	TH7062XX159
	MJ2B	Momentary 1NO: 35V, 0.2 A 12V, 2×40 mA LED green/red	Ø 48 mm	Flush Aluminium	6 pin MOLEX	IP68	TH7062XX158
	MJ3B	Momentary 1NO: 24V, 0.2 A 24V, 2×20 mA LED red/green	Ø 48 mm	Flush Aluminium	4 pin AMP	IP68	TH7062XX141
	MJ4B	Momentary 1NO: 24V, 0.2 A 24V, 2×20 mA LED green/red	Ø 48 mm	Flush Aluminium	4 pin AMP	IP68	TH7062XX142
Actuator colour (XX)	00	Natural	} Please select appropriate colour code reference to complete the switch part no, above eg. TH706502185				
	01	Yellow					
	02	Green					
	04	Red					
	05	Black					
	08	Dark Blue					
Illumination	X	Non-illuminated					
	B	12V	(for illuminated switch bodies only)				
	C	24 V	(for illuminated switch bodies only)				
Illumination colour	X	Non-illuminated					
	2	Green LED	(for illuminated switch bodies only)				
	4	Red LED	(for illuminated switch bodies only)				
	9	Red/Green LED	(for illuminated switch bodies only)				

Stainless steel versions, available upon request.

TI2

Panel Mounted

Indicators

TI2

Panel cut-out (mm)	Ø 16.2/22.5
Characteristics	<ul style="list-style-type: none">■ illuminated■ sealed IP40, IP65 or IP67■ wide range of bezels■ midjet grooved lamp/LED
Rating	max. 60 VAC/DC
Dimensions (mm)	18 × 24 18 × 18 Ø 18 Ø 25
Actuator	lenses in different shapes and colours
Approvals	UL, CSA, VDE



Popular products

Ordering Reference	Panel cut-out (mm)	Function	Actuator style (mm)	Environmental Protection
TI21VAAF4CN	Ø 16.2	Visual	18 × 24	IP40
TI22VFAF4CN	Ø 22.5	Visual	Ø 25	IP65

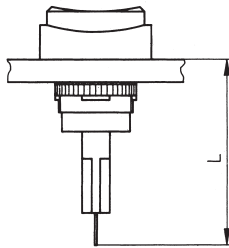
Specifications

Mounting	Central fixing with metal lock nut
Protection	IP40, IP65, IP67
Bezel material	Thermoplastic or anodized aluminium alloy
Lens material	Polycarbonate - engravable
Illumination	T1 ¾ midget grooved lamps - incandescent lamps , LEDs, multi LEDs 60 V, 1.2 W maximum Lamp contact a = anode (+), b = cathode (-) Appropriate safety regulations should be respected when using the indicator light.
Temperature range °C	-25°C to +85°C
Terminals	Solder – suitable for wire diameter 1 × 1.00 mm ² (braided), 2 × 0.75 mm (stranded) Faston – 2.8 mm × 0.5 mm
Vibration resistance	1.5 mm pp amplitude at 55 Hz

Circuit diagram



Dimensions



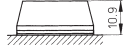
Length in mm	
plastic bezels	38 mm
countersunk mounting bezels	40 mm
aluminium bezels	48 mm

Plastic bezel and lens heights in mm (switch off position)

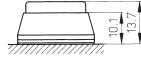
	18 × 24	18 × 18	Ø 18
exposed version IP40			
exposed version IP67			
panel cut-out 16.2 ± 0.1 mm			
concealed version IP40			

Dimensions Aluminium bezel \varnothing 25. Lens heights in mm (switch off position)

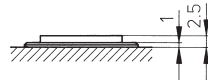
aluminium bezel
without sealing gasket (IP40)



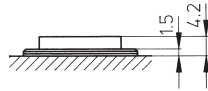
aluminium bezel
with sealing gasket (IP65)



aluminium bezel
countersunk mounting (IP40)



aluminium bezel
countersunk mounting (IP67)



panel cut-out 22.5 ± 0.1 mm

front panel thickness	plastic bezel 1	1.0 to 6.5 mm, 1.0 to 5.0 mm
	aluminium bezel	1.0 to 5.0 mm
	countersunk mounting	2.0 to 15.0 mm

Ordering Reference

Range	T12					
Panel cut-out	1	16.2 mm				
Switch body	Function	Actuator	Housing (plastic)		Part No.	
	VAA Visual	18 × 24 mm	Exposed; IP40; faston		TH551008000	
	VAL Visual	18 × 24 mm	Exposed; IP40; solder		TH551108000	
	VAB Visual	18 × 24 mm	Concealed; IP40; faston		TH551002000	
	VAM Visual	18 × 24 mm	Concealed; IP40; solder		TH551102000	
	VAD Visual	18 × 24 mm	Exposed; IP67; faston		TH551015000	
	VAO Visual	18 × 24 mm	Exposed; IP67; solder		TH551115000	
	VBA Visual	18 × 18 mm	Exposed; IP40; faston		TH553008000	
	VBL Visual	18 × 18 mm	Exposed; IP40; solder		TH553108000	
	VBB Visual	18 × 18 mm	Concealed; IP40; faston		TH553002000	
	VBM Visual	18 × 18 mm	Concealed; IP40; solder		TH553102000	
	VBC Visual	18 × 18 mm	Exposed; IP67; faston		TH553015000	
	VBN Visual	18 × 18 mm	Exposed; IP67; solder		TH553115000	
	VCA Visual	∅ 18	Exposed; IP40; faston		TH555008000	
	VCL Visual	∅ 18	Exposed; IP40; solder		TH555108000	
	VCB Visual	∅ 18	Concealed; IP40; faston		TH555002000	
	VCM Visual	∅ 18	Concealed; IP40; solder		TH555102000	
	VCC Visual	∅ 18	Exposed; IP67; faston		TH555015000	
	VCN Visual	∅ 18	Exposed; IP67; solder		TH555115000	
	Lens transparent			For body style	For body style	For body style
		VAA/VAL (IP40)	VAB/VAM (IP40)	VAD/VAO (IP67)		
F0		White	TH461021000	TH461017000	TH561011000	
F1		Yellow	TH461121000	TH461117000	TH561111000	
F2		Green	TH461221000	TH461217000	TH561211000	
F3		Blue	TH461321000	TH461317000	TH561311000	
F4		Red	TH461421000	TH461417000	TH561411000	
F6		Orange	TH461621000	TH461617000	TH561611000	
		For body style	For body style	For body style		
		VBA/VBL (IP40)	VBB/VBM (IP40)	VBC/VBN (IP67)		
F0		White	TH463021000	TH463018000	TH563011000	
F1		Yellow	TH463121000	TH463118000	TH563111000	
F2		Green	TH463221000	TH463218000	TH563211000	
F3		Blue	TH463321000	TH463318000	TH563311000	
F4		Red	TH463421000	TH463418000	TH563411000	
F6		Orange	TH463621000	TH463618000	TH563611000	
		For body style	For body style	For body style		
		VCA/VCL (IP40)	VCB/VCM (IP40)	VCC/VCN (IP67)		
F0		White	TH465021000	TH465015000	TH565011000	
F1		Yellow	TH465121000	TH465115000	TH565111000	
F2		Green	TH465221000	TH465215000	TH565211000	
F3		Blue	TH465321000	TH465315000	TH565311000	
F4		Red	TH465421000	TH465415000	TH565411000	
F6		Orange	TH465621000	TH465615000	TH565611000	
Illumination	A	6V				
	B	12V				
	C	24V				
	F	48V				
Illumination colour	N	Incandescent lamp	6V, 200 mA TH590000000	12V, 80 mA TH590001000	24V, 50 mA TH590006000	48V, 25 mA TH590004000
	1	Yellow LED	6V AC/DC, 45 mA TH590231000	12V AC/DC, 25 mA TH590234000	24V AC/DC, 12.5 mA TH590237000	48V AC/DC, 12.5 mA TH590240000
	2	Green LED	TH590232000	TH590235000	TH590238000	TH590241000
	4	Red LED	TH590230000	TH590233000	TH590236000	TH590239000

Acoustic versions available upon request

Ordering Reference

Range	T12					
Panel cut-out	2	22.5 mm				
Switch body		Function	Actuator style	Housing	Part No.	
	VFA	Visual	Ø 25	Exposed plastic; IP65; faston	TH555020000	
	VFB	Visual	Ø 25	Exposed plastic; IP65; solder	TH555120000	
	VFC	Visual	Ø 25	Exposed aluminium; IP40/IP65*; faston	TH555018000	
	VFD	Visual	Ø 25	Exposed aluminium; IP40/IP65*; solder	TH555118000	
	VFE	Visual	Ø 25	Exposed aluminium; IP65 with silicon cap; faston	TH555033000	
	VFF	Visual	Ø 25	Exposed aluminium; IP65 with silicon cap; solder	TH555133000	
	VFG	Visual	Ø 25	Flush-aluminium; IP40; faston	TH555050000	
	VFH	Visual	Ø 25	Flush-aluminium; IP40; solder	TH555150000	
	VFJ	Visual	Ø 25	Flush-aluminium; IP67; faston	TH555051000	
	VFK	Visual	Ø 25	Flush-aluminium; IP67; solder	TH555151000	
	Lens transparent			For body style	VFC/VFD	With sealing ring
			VFA/VFB (IP65)	VFG/VFH (IP40/IP65)	VFE/VFF (IP65)	
F0		White	TH565024000	TH465015000	TH465001000	
F1		Yellow	TH565124000	TH465115000	TH465101000	
F2		Green	TH565224000	TH465215000	TH465201000	
F3		Blue	TH565324000	TH465315000	TH465301000	
F4		Red	TH565424000	TH465415000	TH465401000	
F6	Orange	TH565624000	TH465615000	TH465601000		
Illumination	A	6V				
	B	12V				
	C	24V				
	F	48V				
Illumination colour	N	Incandescent lamp	6V, 200 mA TH590000000	12V, 80 mA TH590001000	24V, 50 mA TH590006000	48V, 25 mA TH590004000
	1	Yellow LED	6V AC/DC, 45 mA TH590231000	12V AC/DC, 25 mA TH590234000	24V AC/DC, 12.5 mA TH590237000	48V AC/DC, 12.5 mA TH590240000
	2	Green LED	TH590232000	TH590235000	TH590238000	TH590241000
	4	Red LED	TH590230000	TH590233000	TH590236000	TH590239000

Acoustic versions available upon request

TI5

Panel Mounted

Indicators

TI5

Panel cut-out (mm)	Ø 16.2/22.5
Characteristics	<ul style="list-style-type: none">■ sealed IP40 or IP65■ wide range of bezels■ illuminated■ midget grooved lamp/LED
Rating	max. 60 VAC/DC
Dimensions (mm)	18 × 24 18 × 18 Ø 18 Ø 25
Actuator	lenses in different shapes and colours
Approvals	UL, CSA, VDE



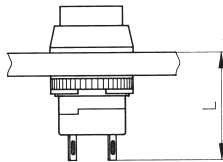
Popular products

Ordering Reference	Panel cut-out (mm)	Function	Actuator style (mm)	Environmental Protection
TI51VALA4CN	Ø 16.2	Visual	18 × 24	IP40
TI52VFSF4CN	Ø 22.5	Visual	Ø 25	IP65

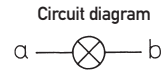
Specifications

Mounting	Central fixing with metal lock nut
Protection	IP40, IP65
Bezel material	Thermoplastic or anodized aluminium alloy
Lens material	Polycarbonate – engravable
Illumination	T1 ¾ midget grooved lamps – incandescent lamps , LEDs, multi LEDs 60 V, 1.2 W maximum Lamp contact a = anode (+), b = cathode (-) Appropriate safety regulations should be respected when using the indicator light.
Temperature range °C	-25°C to +85°C
Terminal material	Silver alloy with 2 µm silver plating, 4 µm gold plating
Terminals	Patented flexible solder - suitable for wire diameter 2 × 1.00 mm ² (braided), 4 × 0.75 mm (stranded)
Vibration resistance	1.5 mm pp amplitude at 55 Hz

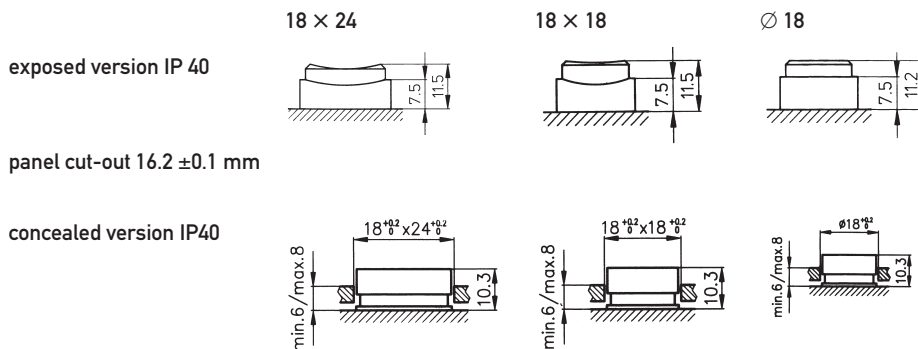
Dimensions



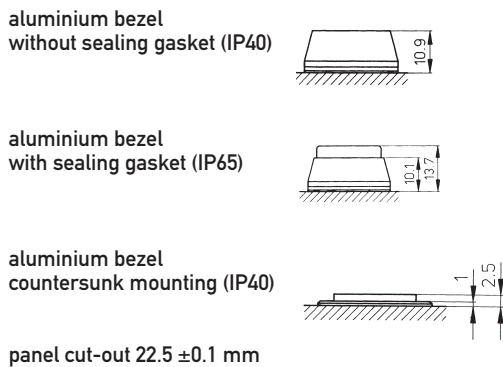
Length in mm	
plastic bezels	23.5
countersunk mounting bezels	22.5
aluminium bezels	32.0



Plastic bezel and lens heights in mm (switch off position)



Aluminium bezel Ø 25 and lens height in mm (switch off position)



front panel thickness	plastic bezel (Ø 18 mm)	1.0 to 5.5 mm
	aluminium bezel (Ø 25 mm)	1.0 to 5.0 mm
	countersunk mounting (Ø 25 mm)	2.0 to 15.0 mm

Ordering Reference

Range	T15					
Panel cut-out	1	16.2 mm				
Switch body (A)	Function	Actuator style	Housing (plastic)		Part No.	
	VAL Visual	18 × 24 mm	Exposed; IP40; solder		TH550008000	
	VAM Visual	18 × 24 mm	Concealed; IP40; solder		TH550037000	
	(B)	VBL Visual	18 × 18 mm	Exposed; IP40; solder		TH552008000
	VBM Visual	18 × 18 mm	Concealed; IP40; solder		TH552037000	
	(C)	VDL Visual	Ø 18 mm	Exposed; IP40; solder		TH554008000
	VDM Visual	Ø 18 mm	Concealed; IP40; solder		TH554037000	
Lens, transparent For Switch body style (A)	A0	White	Exposed 15 × 21 mm	Concealed 18 × 24 mm	Exposed TH461021000	Concealed TH461017000
	A1	Yellow	15 × 21 mm	18 × 24 mm	TH461121000	TH461117000
	A2	Green	15 × 21 mm	18 × 24 mm	TH461221000	TH461217000
	A3	Blue	15 × 21 mm	18 × 24 mm	TH461321000	TH461317000
	A4	Red	15 × 21 mm	18 × 24 mm	TH461421000	TH461417000
	A6	Orange	15 × 21 mm	18 × 24 mm	TH461621000	TH461617000
	For Switch body style (B)	B0	White	15 × 15 mm	18 × 18 mm	TH463021000
B1		Yellow	15 × 15 mm	18 × 18 mm	TH463121000	TH463118000
B2		Green	15 × 15 mm	18 × 18 mm	TH463221000	TH463218000
B3		Blue	15 × 15 mm	18 × 18 mm	TH463321000	TH463318000
B4		Red	15 × 15 mm	18 × 18 mm	TH463421000	TH463418000
B6		Orange	15 × 15 mm	18 × 18 mm	TH463621000	TH463618000
For Switch body style (C)	D0	White	Ø 15 mm	Ø 18 mm	TH465021000	TH465015000
	D1	Yellow	Ø 15 mm	Ø 18 mm	TH465121000	TH465115000
	D2	Green	Ø 15 mm	Ø 18 mm	TH465221000	TH465215000
	D3	Blue	Ø 15 mm	Ø 18 mm	TH465321000	TH465315000
	D4	Red	Ø 15 mm	Ø 18 mm	TH465421000	TH465415000
	D6	Orange	Ø 15 mm	Ø 18 mm	TH465621000	TH465615000
Illumination	X	Non illuminated				
	A	6V				
	B	12V				
	C	24V				
	F	48V				
Illumination colour	X	Non illuminated				
	N	Incandescent lamp	6V, 200 mA TH590000000	12V, 80 mA TH590001000	24V, 50 mA TH590006000	48V, 25 mA TH590004000
	1	Yellow LED	6V AC/DC, 45 mA TH590231000	12V AC/DC, 25 mA TH590234000	24V AC/DC, 12.5 mA TH590237000	48V AC/DC, 12.5 mA TH590240000
	2	Green LED	TH590232000	TH590235000	TH590238000	TH590241000
	4	Red LED	TH590230000	TH590233000	TH590236000	TH590239000

Acoustic versions available upon request

Ordering Reference

Range	T15					
Panel cut-out	2 22.5 mm					
Switch body	VFP Visual	Function Ø 25 mm	Actuator style Exposed aluminium; IP40; solder	Housing (Aluminium)	Part No. TH554018000	
	VFQ Visual	Ø 25 mm	Exposed aluminium; IP65; solder		TH554018000	
	VFR Visual	Ø 25 mm	Exposed aluminium; IP65* with silicon cap; solder		TH554033000	
	VFS Visual	Ø 25 mm	Flush-aluminium; IP40; solder		TH554050000	
Lens transparent Only for Visual Indicators	F0	White Ø 18	Exposed IP40 /IP65 Flush IP40		Exposed IP65 with sealing ring	
	F1	Yellow Ø 18	TH465015000		TH465001000	
	F2	Green Ø 18	TH465115000		TH465101000	
	F3	Blue Ø 18	TH465215000		TH465201000	
	F4	Red Ø 18	TH465315000		TH465301000	
	F5	Orange Ø 18	TH465415000		TH465401000	
	F6	Orange Ø 18	TH465615000		TH465601000	
Illumination	X	Non illuminated				
	A	6V				
	B	12V				
	C	24V				
	F	48V				
Illumination colour	X	Non illuminated				
	N	Incandescent lamp	6V, 200 mA TH590000000	12V, 80 mA TH590001000	24V, 50 mA TH590006000	48V, 25 mA TH590004000
	1	Yellow LED	6V AC/DC, 45 mA TH590231000	12V AC/DC, 25 mA TH590234000	24V AC/DC, 12.5 mA TH590237000	48V AC/DC, 12.5 mA TH590240000
	2	Green LED	TH590232000	TH590235000	TH590238000	TH590241000
	4	Red LED	TH590230000	TH590233000	TH590236000	TH590239000

Acoustic versions available upon request

T19

Panel Mounted

Indicators

T19

Panel cut-out (mm)	Ø 22.5
Characteristics	<ul style="list-style-type: none">■ illuminated■ sealed IP67■ round metal bezels■ red, green or red/green LED
Rating	24 VDC 20 mA
Dimensions (mm)	Ø 25
Actuator	aluminium housing
Approvals	none



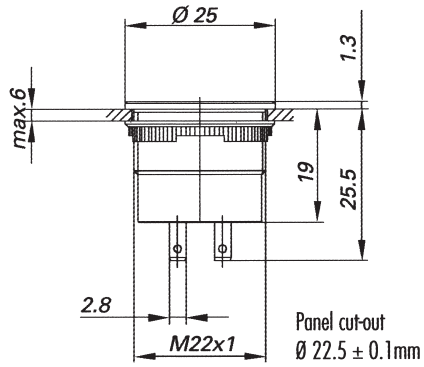
Popular products

Ordering Reference	Panel cut-out (mm)	Function	Actuator style (mm)	Environmental Protection
T192VFOA500	Ø 22.5	Visual	Ø 25	IP67

Specifications

Mounting	Central fixing with metal lock nut
Protection	IP67
Housing and actuator material	Anodised aluminium or stainless steel (upon request)
Temperature range °C	-30°C to +70°C
Terminals	Faston - 2.8mm × 0.5mm

Dimensions



Ordering Reference

Range	T19	
Panel cut-out	2	22.5 mm
Switch body	VF0A Ø 25 mm Visual Indicator IP67; 1NO; Flush Aluminium natural; faston 2.8 mm × 0.5 mm VF1A Ø 25 mm Visual Indicator IP67; 1NO; Flush Aluminium yellow; faston 2.8 mm × 0.5 mm VF2A Ø 25 mm Visual Indicator IP67; 1NO; Flush Aluminium green; faston 2.8 mm × 0.5 mm VF4A Ø 25 mm Visual Indicator IP67; 1NO; Flush Aluminium red; faston 2.8 mm × 0.5 mm VF5A Ø 25 mm Visual Indicator IP67; 1NO; Flush Aluminium black; faston 2.8 mm × 0.5 mm VF8A Ø 25 mm Visual Indicator IP67; 1NO; Flush Aluminium dark blue; faston 2.8 mm × 0.5 mm	TH920000 XXX TH920001 XXX TH920002 XXX TH920004 XXX TH920005 XXX TH920008 XXX
Illumination (XXX)	504 Red LED: 24 VDC, 20 mA 502 Green LED: 24 VDC, 20 mA 500 Red/Green LED: 24 VDC, 20 mA	←

Stainless steel versions available upon request.

TE8

Panel Mounted

Emergency Stop

TE8

Panel cut-out (mm)	Ø 16.2/22.5
Characteristics	<ul style="list-style-type: none">meets EN418 directives (Ø 27 mm only)sealed IP66 or IP67rotary, pull or key resetyellow disk bezel (optional)1NO + 1 NC or 2 NC
Rating	250 VAC, 6 A
Dimensions (mm)	Ø 27 Ø 40
Actuator	red mushroom cap (Ø 27 mm) reset by KABA key (Ø 40 mm)
Approvals	IEC 947-5-1/947-5-5 (Ø 27 mm only)



Popular products

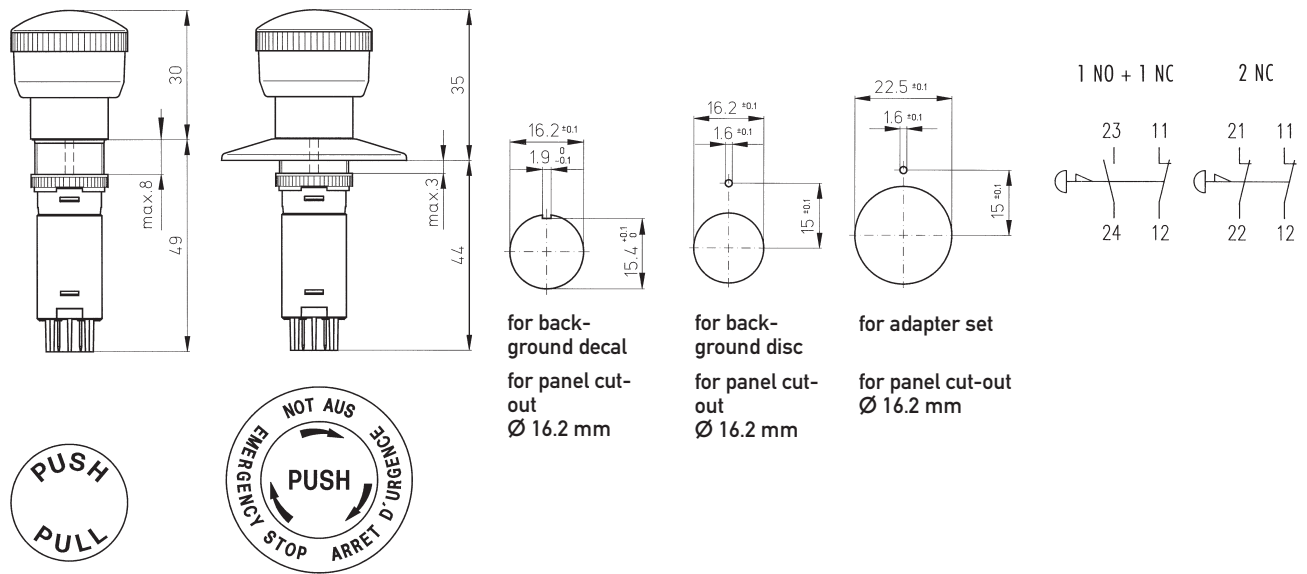
Ordering Reference	Panel cut-out (mm)	Function	Actuator style (mm)	Environmental protection	Terminals (mm)	Electrical rating
TE82KJB1XX	Ø 22.5	Key release 1NO + 1NC	Ø 40	IP40	2.8 × 0.5 faston	250 VAC, 6A
TE81RGP2A1	Ø 16.2	Rotary release 2NC	Ø 27	IP67	2.8 × 0.5 faston	250 VAC, 6A

Specifications

Mechanism	Momentary positive action with wiping contacts
Contact gap	>3 mm
Actuating force	Approximately 25 N
Mounting	Central fixing with metal lock nut (E switch) and Anti-rotation device on key (reset switch)
Protection	IP67
Bezel material	Thermoplastic or nickel-plated brass
Lens material	Polycarbonate
Illumination	Non-illuminated
Temperature range °C	-25°C to +55°C
Contact block	Supplied fitted
Contact block housing	Thermoplastic
Terminal material	Silver nickel with 0.4 µm gold plating
Contact resistance	<30 mOhm
Number of contact blocks	1 NO + 1 NC or 2 NC – independent circuits
Terminals	Faston - 2.8 mm × 0.5 mm, to DIN 46247

Dimensions Emergency stop switches according to EN 418 IP66/IP67

Circuit diagram



mushroom cap × 27 mm, red
disc bezel, yellow plastic, × 43 mm

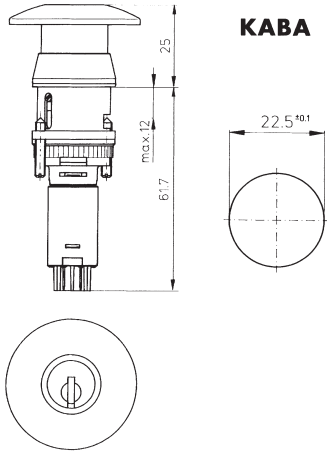
Recommended maximum electrical ratings

Voltage (max) 230 VAC	Resistive load (A) 6.0	Inductive load (A)	Approval IEC 947-5-1, AC15 - recommended circuit breaker C6A
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Electrical life	20,000 cycles at 10A, 24V, DC13 50,000 cycles at 5A, 24V, DC13 100,000 cycles at 5A, 12V, DC13 50,000 cycles at 6A, 250V, AC12 300,000 cycles at 2.5A, 250V, AC12
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TE8

Dimensions Mushroom switches with key reset IP40



mushroom cap × 40 mm, red
bezel × 29 mm

These switches can be integrated in security key code plans. The following security system are available at a surcharge:
KABA 8, KABA 20, KABA STAR. Extra registered keys are only available from the cylinder manufacturer.

	model with KABA 8-cylinder standard key code 317 000
Cylinder no. for key code plans	1063 B

Ordering Reference

Range	TE8			
Panel cut-out	1	16.2 mm for E-Stop with rotary and pull reset		
	2	22.5 mm only for E-Stop with key release		
Switch body	Function	Actuator style	Contact block	Part No.
	KJB1 E-Stop with key reset: 1NO + 1NC	Ø 40 mm red; IP40; no print	1NO+1NC; 2.8 × 0.5mm	TH885503100
	KJB2 E-Stop with key reset: 2NC	Ø 40 mm red; IP40; no print	2NC; 2.8 × 0.5mm	TH885504100
	PGP1 E-Stop with pull reset; conforms to EN 418	Ø 27 mm red; IP67; printed	1NO+1NC; 2.8 × 0.5mm	TH881203000
	PGP2 E-Stop with pull reset; conforms to EN 418	Ø 27 mm red; IP67; printed	2NC; 2.8 × 0.5mm	TH881204000
	RGP1 E-Stop with rotary reset; conforms to EN 418	Ø 27 mm red; IP67; printed	1NO+1NC; 2.8 × 0.5mm	TH880203000
	RGP2 E-Stop with rotary reset; conforms to EN 418	Ø 27 mm red; IP67; printed	2NC; 2.8 × 0.5mm	TH880204000
Disk bezel	XX	Not available for key reset version		
	A1	Yellow plastic disk Ø 43 mm with printing	For 16.2mm panel cut out	TH893002000
	B1	Yellow plastic disk Ø 43 mm without printing	For 16.2mm panel cut out	TH893003000
	C1	Yellow self adhesive label Ø 43 mm with printing	For 16.2mm panel cut out	TH893011000
	D1	Yellow self adhesive label Ø 43 mm without printing	For 16.2mm panel cut out	TH893010000
	E1	Yellow plastic adapterset Ø 43 mm with printing	For 22.5mm panel cut out	TH893000000
	F1	Yellow plastic adapterset Ø 43 mm without printing	For 22.5mm panel cut out	TH893001000

TK2

Panel Mounted

Keyswitch

TK2

Panel cut-out (mm) \varnothing 16.2/22.5

- Characteristics
- 2 or 3 position
 - sealed IP40 or IP65
 - plastic or aluminium bezels
 - NO, NC
 - gold plated single or double pole contact blocks
 - key trapping options

Rating 250 VAC, 5 A

Dimensions (mm) 18×24
 18×18
 $\varnothing 18$
 $\varnothing 25$

Actuator key-KABA MICRO

Approvals UL, CSA, VDE



Popular products

Ordering Reference	Panel cut-out (mm)	Function	Actuator style (mm)	Environmental protection	Terminals (mm)	Electrical rating
TK21B2A001C1C1A	\varnothing 16.2	2 Position Kaba Micro key	24×24	IP40	2.8×0.5 faston	250 VAC, 5A
TK22B2E001C1C1E	\varnothing 22.5	2 Position Kaba Micro key	\varnothing 25	IP65	2.8×0.5 faston	250 VAC, 5A

Specifications

Mechanism	Key actuated
Mounting	Central fixing with metal lock nut
Protection	IP40 or IP65
Bezel material	Thermoplastic or anodized aluminium alloy
Temperature range °C	-25°C to +85°C
Mechanical life	10 ⁶ cycles
Contact block	Slide-on assembly by the user
Contact block housing	Self-extinguishing duroplastic (UL 94 V0)
Terminal material	Silver alloy with 0.2 µm silver plating plus, 0.4 µm gold plating
Contact resistance	<30 mOhm
Number of contact blocks	User configurable NO or NC types up to a maximum of 2 double contact blocks
Terminals	Patented flexible solder – suitable for wire diameter 1 × 1.00 mm ² (braided), 2 × 0.75 mm (stranded) Faston - 2.8mm × 0.5mm
Vibration resistance	1.5 mm pp amplitude at 55 Hz

Cylinder locks

KABA MICRO

Compact format

Key code EB 0001 (standard)

Key codes EB 0002 - EB 0020 (upon request)

Over 10'000 different key code variations

Key lock systems with master keys and central locks

2 keys per key switch (additional keys on order)

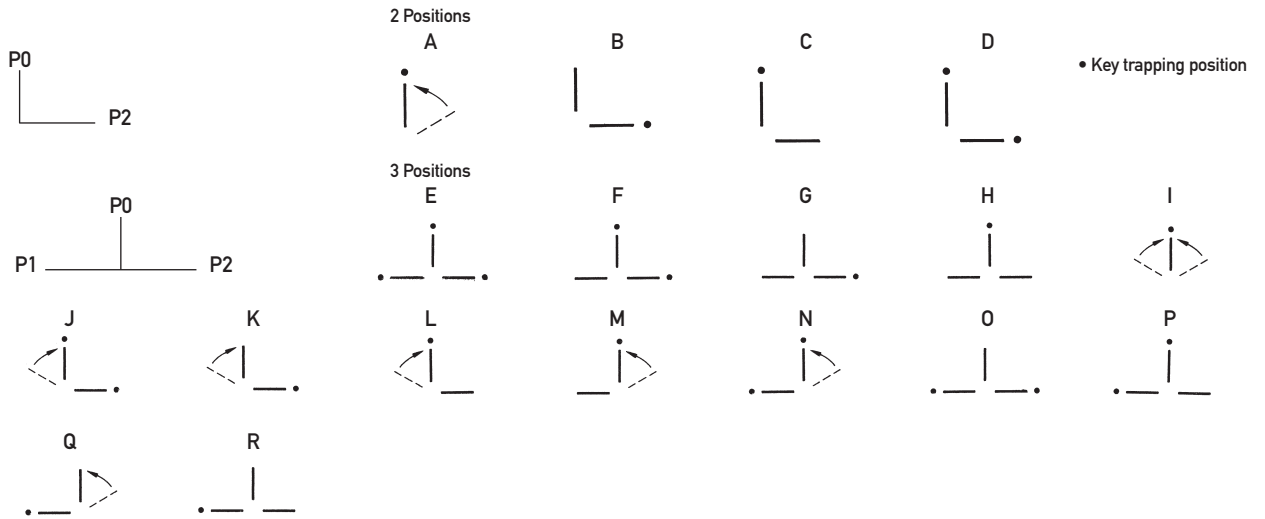
Destruction of the key or lock must be expected if the level 50 Ncm is exceeded.

Recommended maximum electrical ratings

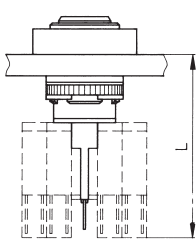
Voltage (max)	Resistive load (A)	Inductive load (A)	Approval
250 VAC	5.0 (0.7 pf)		UL, CSA, VDE - max. admissible circuit breaker C6A
12 VDC	5.0	3.0	General rating
24 VDC	4.0	2.0	General rating
36 VDC	3.0	1.7	General rating
48 VDC	2.0	1.5	General rating
60 VDC	1.5	1.2	General rating
125 VDC	0.5	0.3	General rating
250 VDC	0.3	0.2	General rating
Electrical life	50,000 cycles at 5A, 250 VAC, 0.7 pf		

TK2

Key positions/
function

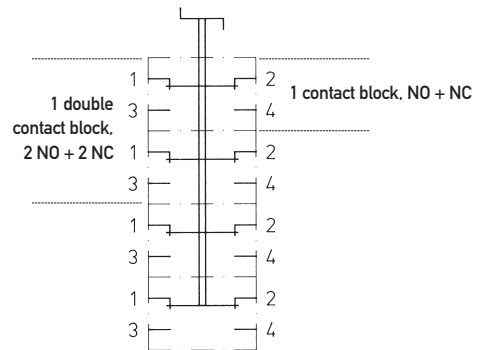


Dimensions



Length in mm (with contact block)
plastic bezels 43
aluminium bezels 42

Circuit diagram (2 double contact blocks)

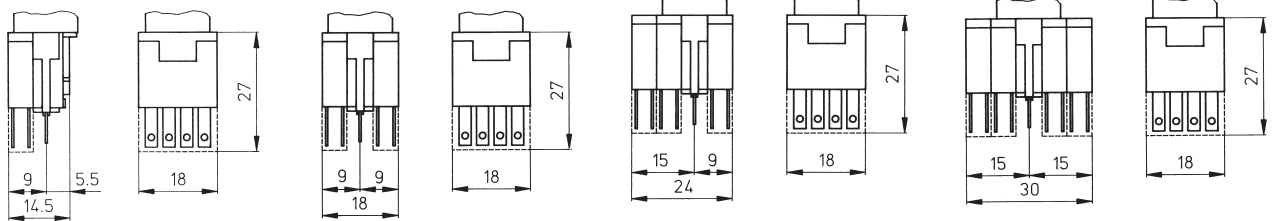


Contact blocks 1 contact block

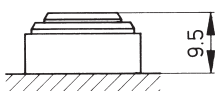
2 contact blocks

1 contact block +
1 double contact block

2 double contact blocks



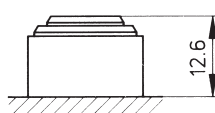
Cylinder height plastic bezel IP40



Panel cut-out 22.5 ± 0.1 mm

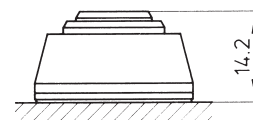
Front panel thickness

plastic bezel IP65
Panel cut-out
 $16.2 \text{ mm} \pm 0.1 \text{ mm}$



plastic bezel IP40
plastic bezel IP65
aluminium bezel

aluminium bezel 2 position key
Panel cut-out
 $22.5 \text{ mm} \pm 0.1 \text{ mm}$



2.0 to 5.0 mm
2.0 to 6.5 mm
1.0 to 5.0 mm

Ordering Reference

Range		TK2						
Panel cut-out	1	16.2 mm for plastic bezel key switches						
	2	22.5 mm for Aluminium bezel key switches						
Key position / function 16.2 mm cut-out	A2A	2 Positions: IP40; Kaba Micro; Key removable P0			Momentary P2	TH548032XXX		
	B2A	2 Positions: IP40; Kaba Micro; Key removable P2			Latching P2	TH548034XXX		
	C2A	2 Positions: IP40; Kaba Micro; Key removable P0			Latching P2	TH548036XXX		
	D2A	2 Positions: IP40; Kaba Micro; Key removable P0 + P2			Latching P2	TH548038XXX		
	A2C	2 Positions: IP65; Kaba Micro; Key removable P0			Momentary P2	TH548132XXX		
	B2C	2 Positions: IP65; Kaba Micro; Key removable P2			Latching P2	TH548134XXX		
	C2C	2 Positions: IP65; Kaba Micro; Key removable P0			Latching P2	TH548136XXX		
	D2C	2 Positions: IP65; Kaba Micro; Key removable P0 + P2			Latching P2	TH548138XXX		
22.5 mm cut-out	A2E	2 Positions: Ø 25 mm Aluminium bezel IP65; Kaba Micro; Key removable P0			Momentary P2	TH544040XXX		
	B2E	2 Positions: Ø 25 mm Aluminium bezel IP65; Kaba Micro; Key removable P2			Latching P2	TH544041XXX		
	C2E	2 Positions: Ø 25 mm Aluminium bezel IP65; Kaba Micro; Key removable P0			Latching P2	TH544042XXX		
	D2E	2 Positions: Ø 25 mm Aluminium bezel IP65; Kaba Micro; Key removable P0 + P2			Latching P2	TH544043XXX		
Key code number (XXX)	001	Kaba Micro Code EB0001	THXXXXXX	001	012	Kaba Micro Code EB0012	THXXXXXX	012
	002	Kaba Micro Code EB0002	THXXXXXX	002	013	Kaba Micro Code EB0013	THXXXXXX	013
	003	Kaba Micro Code EB0003	THXXXXXX	003	014	Kaba Micro Code EB0014	THXXXXXX	014
	004	Kaba Micro Code EB0004	THXXXXXX	004	015	Kaba Micro Code EB0015	THXXXXXX	015
	005	Kaba Micro Code EB0005	THXXXXXX	005	016	Kaba Micro Code EB0016	THXXXXXX	016
	006	Kaba Micro Code EB0006	THXXXXXX	006	017	Kaba Micro Code EB0017	THXXXXXX	017
	007	Kaba Micro Code EB0007	THXXXXXX	007	018	Kaba Micro Code EB0018	THXXXXXX	018
	008	Kaba Micro Code EB0008	THXXXXXX	008	019	Kaba Micro Code EB0019	THXXXXXX	019
	009	Kaba Micro Code EB0009	THXXXXXX	009	020	Kaba Micro Code EB0020	THXXXXXX	020
	010	Kaba Micro Code EB0010	THXXXXXX	010	999	Mixed differs	THXXXXXX	999
	011	Kaba Micro Code EB0011	THXXXXXX	011				
	Contact block, gold Position 1	XX	No contact block	Terminals	Part No.			
A1		NO	2.8 × 0.5 mm	TH593566020				
A9		NO	Insulated faston	TH593560020				
A8		NO	Solder	TH593561020				
B1		NC	2.8 × 0.5 mm	TH593566050				
B9		NC	Insulated faston	TH593560050				
B8		NC	Solder	TH593561050				
C1		1 NO + 1 NC	2.8 × 0.5 mm	TH593566000				
C9		1 NO + 1 NC	Insulated faston	TH593560000				
C8		1 NO + 1 NC	Solder	TH593561000				
D1		2 NO + 2 NC	2.8 × 0.5 mm	TH593567000				
D9		2 NO + 2 NC	Insulated faston	TH593563000				
D8	2 NO + 2 NC	Solder	TH593564000					
Contact block, gold Position 2	XX	No contact block	Terminals	Part No.				
	A1	NO	2.8 × 0.5 mm	TH593566020				
	A9	NO	Insulated faston	TH593560020				
	A8	NO	Solder	TH593561020				
	B1	NC	2.8 × 0.5 mm	TH593566050				
	B9	NC	Insulated faston	TH593560050				
	B8	NC	Solder	TH593561050				
	C1	1 NO + 1 NC	2.8 × 0.5 mm	TH593566000				
	C9	1 NO + 1 NC	Insulated faston	TH593560000				
	C8	1 NO + 1 NC	Solder	TH593561000				
	D1	2 NO + 2 NC	2.8 × 0.5 mm	TH593567000				
	D9	2 NO + 2 NC	Insulated faston	TH593563000				
D8	2 NO + 2 NC	Solder	TH593564000					
Bezel	A	18 mm × 24 mm plastic		IP40	IP65			
	B	18 mm × 18 mm plastic		TH493060000	TH593060000			
	D	Ø 18 mm plastic		TH493062000	TH593062000			
	E	Ø 25 mm aluminium (Factory fitted)		TH493064000	TH593064000			

The keyswitch cannot be installed without a bezel. The IP40 bezels are interchangeable before installation. Contact blocks will be supplied unassembled.

Ordering Reference

Range	TK2				
Panel cut-out	1	16.2 mm			
Key position / function	E3A	3 Position; IP40; Kaba Micro; Key removable PO + P1 + P2	Latching P1 + P2	TH548050XXX	
	F3A	3 Position; IP40; Kaba Micro; Key removable PO + P2	Latching P1 + P2	TH548051XXX	
	G3A	3 Position; IP40; Kaba Micro; Key removable P2	Latching P1 + P2	TH548052XXX	
	H3A	3 Position; IP40; Kaba Micro; Key removable PO	Latching P1 + P2	TH548053XXX	
	I3A	3 Position; IP40; Kaba Micro; Key removable PO	Momentary P1 + P2	TH548054XXX	
	J3A	3 Position; IP40; Kaba Micro; Key removable PO + P2	Momentary P1 + Latching P2	TH548055XXX	
	K3A	3 Position; IP40; Kaba Micro; Key removable P2	Momentary P1 + Latching P2	TH548056XXX	
	L3A	3 Position; IP40; Kaba Micro; Key removable PO	Momentary P1 + Latching P2	TH548057XXX	
	M3A	3 Position; IP40; Kaba Micro; Key removable PO	Latching P1 + Momentary P2	TH548058XXX	
	N3A	3 Position; IP40; Kaba Micro; Key removable PO + P1	Latching P1 + Momentary P2	TH548059XXX	
	O3A	3 Position; IP40; Kaba Micro; Key removable P1 + P2	Latching P1 + P2	TH548060XXX	
	P3A	3 Position; IP40; Kaba Micro; Key removable PO + P1	Latching P1 + P2	TH548061XXX	
	Q3A	3 Position; IP40; Kaba Micro; Key removable P1	Latching P1 + Momentary P2	TH548062XXX	
	R3A	3 Position; IP40; Kaba Micro; Key removable P1	Latching P1 + P2	TH548063XXX	
	E3B	3 Position; IP65; Kaba Micro; Key removable PO + P1 + P2	Latching P1 + P2	TH548150XXX	
	F3B	3 Position; IP65; Kaba Micro; Key removable PO + P2	Latching P1 + P2	TH548151XXX	
	G3B	3 Position; IP65; Kaba Micro; Key removable P2	Latching P1 + P2	TH548152XXX	
	H3B	3 Position; IP65; Kaba Micro; Key removable PO	Latching P1 + P2	TH548153XXX	
	I3B	3 Position; IP65; Kaba Micro; Key removable PO	Momentary P1 + P2	TH548154XXX	
	J3B	3 Position; IP65; Kaba Micro; Key removable PO + P2	Momentary P1 + Latching P2	TH548155XXX	
	K3B	3 Position; IP65; Kaba Micro; Key removable P2	Momentary P1 + Latching P2	TH548156XXX	
	L3B	3 Position; IP65; Kaba Micro; Key removable PO	Momentary P1 + Latching P2	TH548157XXX	
	M3B	3 Position; IP65; Kaba Micro; Key removable PO	Latching P1 + Momentary P2	TH548158XXX	
	N3B	3 Position; IP65; Kaba Micro; Key removable PO + P1	Latching P1 + Momentary P2	TH548159XXX	
	O3B	3 Position; IP65; Kaba Micro; Key removable P1 + P2	Latching P1 + P2	TH548160XXX	
	P3B	3 Position; IP65; Kaba Micro; Key removable PO + P1	Latching P1 + P2	TH548161XXX	
	Q3B	3 Position; IP65; Kaba Micro; Key removable P1	Latching P1 + Momentary P2	TH548162XXX	
	R3B	3 Position; IP65; Kaba Micro; Key removable P1	Latching P1 + P2	TH548163XXX	
Key code number	001	Kaba Micro Code EB0001	THXXXXXX 001	012 Kaba Micro Code EB0012	THXXXXXX 012
	002	Kaba Micro Code EB0002	THXXXXXX 002	013 Kaba Micro Code EB0013	THXXXXXX 013
	003	Kaba Micro Code EB0003	THXXXXXX 003	014 Kaba Micro Code EB0014	THXXXXXX 014
	004	Kaba Micro Code EB0004	THXXXXXX 004	015 Kaba Micro Code EB0015	THXXXXXX 015
	005	Kaba Micro Code EB0005	THXXXXXX 005	016 Kaba Micro Code EB0016	THXXXXXX 016
	006	Kaba Micro Code EB0006	THXXXXXX 006	017 Kaba Micro Code EB0017	THXXXXXX 017
	007	Kaba Micro Code EB0007	THXXXXXX 007	018 Kaba Micro Code EB0018	THXXXXXX 018
	008	Kaba Micro Code EB0008	THXXXXXX 008	019 Kaba Micro Code EB0019	THXXXXXX 019
	009	Kaba Micro Code EB0009	THXXXXXX 009	020 Kaba Micro Code EB0020	THXXXXXX 020
	010	Kaba Micro Code EB0010	THXXXXXX 010	999 Mixed differs	THXXXXXX 999
	011	Kaba Micro Code EB0011	THXXXXXX 011		
Contact block, gold Position 1	XX	No contact block	Terminals	Part No.	
	A1	NO	2.8 × 0.5 mm	TH593566020	
	A9	NO	Insulated faston	TH593560020	
	A8	NO	Solder	TH593561020	
	B1	NC	2.8 × 0.5 mm	TH593566050	
	B9	NC	Insulated faston	TH593560050	
	B8	NC	Solder	TH593561050	
	C1	1 NO + 1 NC	2.8 × 0.5 mm	TH593566000	
	C9	1 NO + 1 NC	Insulated faston	TH593560000	
	C8	1 NO + 1 NC	Solder	TH593561000	
	D1	2 NO + 2 NC	2.8 × 0.5 mm	TH593567000	
	D9	2 NO + 2 NC	Insulated faston	TH593563000	
	D8	2 NO + 2 NC	Solder	TH593564000	
Contact block, gold Position 2	XX	No contact block	Terminals	Part No.	
	A1	NO	2.8 × 0.5 mm	TH593566020	
	A9	NO	Insulated faston	TH593560020	
	A8	NO	Solder	TH593561020	
	B1	NC	2.8 × 0.5 mm	TH593566050	
	B9	NC	Insulated faston	TH593560050	
	B8	NC	Solder	TH593561050	
	C1	1 NO + 1 NC	2.8 × 0.5 mm	TH593566000	
	C9	1 NO + 1 NC	Insulated faston	TH593560000	
	C8	1 NO + 1 NC	Solder	TH593561000	
	D1	2 NO + 2 NC	2.8 × 0.5 mm	TH593567000	
	D9	2 NO + 2 NC	Insulated faston	TH593563000	
	D8	2 NO + 2 NC	Solder	TH593564000	
Bezel	A	18 mm × 24 mm plastic	IP40 TH493060000	IP65 TH593060000	
	B	18 mm × 18 mm plastic	TH493062000	TH593062000	
	D	∅ 18 mm plastic	TH493064000	TH593064000	

The keyswitch cannot be installed without a bezel. The IP40 bezels are interchangeable before installation. Contact blocks will be supplied unassembled.

Ordering Reference

Range	TK2			
Panel cut-out	2	22.5 mm		
Key position / function	E3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P0 + P1 + P2	Latching P1 + P2	TH544050XXX
	F3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P0 + P2	Latching P1 + P2	TH544051XXX
	G3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P2	Latching P1 + P2	TH544052XXX
	H3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P0	Latching P1 + P2	TH544053XXX
	I3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P0	Momentary P1 + P2	TH544054XXX
	J3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P0 + P2	Momentary P1 + Latching P2	TH544055XXX
	K3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P2	Momentary P1 + Latching P2	TH544056XXX
	L3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P0	Momentary P1 + Latching P2	TH544057XXX
	M3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P0	Latching P1 + Momentary P2	TH544058XXX
	N3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P0 + P1	Latching P1 + Momentary P2	TH544059XXX
	O3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P1 + P2	Latching P1 + P2	TH544060XXX
	P3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P0 + P1	Latching P1 + P2	TH544061XXX
	Q3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P1	Latching P1 + Momentary P2	TH544062XXX
	R3C	3 Position; Ø 25 mm Alum. bezel IP65; Kaba Micro; Key removable P1	Latching P1 + P2	TH544063XXX
Key code number (XXX)	001	Kaba Micro Code EB0001		THXXXXXX 001
	002	Kaba Micro Code EB0002		THXXXXXX 002
	003	Kaba Micro Code EB0003		THXXXXXX 003
	004	Kaba Micro Code EB0004		THXXXXXX 004
	005	Kaba Micro Code EB0005		THXXXXXX 005
	006	Kaba Micro Code EB0006		THXXXXXX 006
	007	Kaba Micro Code EB0007		THXXXXXX 007
	008	Kaba Micro Code EB0008		THXXXXXX 008
	009	Kaba Micro Code EB0009		THXXXXXX 009
	010	Kaba Micro Code EB0010		THXXXXXX 010
	011	Kaba Micro Code EB0011		THXXXXXX 011
	012	Kaba Micro Code EB0012		THXXXXXX 012
	013	Kaba Micro Code EB0013		THXXXXXX 013
	014	Kaba Micro Code EB0014		THXXXXXX 014
	015	Kaba Micro Code EB0015		THXXXXXX 015
	016	Kaba Micro Code EB0016		THXXXXXX 016
	017	Kaba Micro Code EB0017		THXXXXXX 017
	018	Kaba Micro Code EB0018		THXXXXXX 018
	019	Kaba Micro Code EB0019		THXXXXXX 019
	020	Kaba Micro Code EB0020		THXXXXXX 020
	999	Mixed differs		THXXXXXX 999
Contact block, gold Position 1	XX	No contact block	Terminals	Part No.
	A1	NO	2.8 × 0.5 mm	TH593566020
	A9	NO	Insulated faston	TH593560020
	A8	NO	Solder	TH593561020
	B1	NC	2.8 × 0.5 mm	TH593566050
	B9	NC	Insulated faston	TH593560050
	B8	NC	Solder	TH593561050
	C1	1 NO + 1 NC	2.8 × 0.5 mm	TH593566000
	C9	1 NO + 1 NC	Insulated faston	TH593560000
	C8	1 NO + 1 NC	Solder	TH593561000
	D1	2 NO + 2 NC	2.8 × 0.5 mm	TH593567000
	D9	2 NO + 2 NC	Insulated faston	TH593563000
	D8	2 NO + 2 NC	Solder	TH593564000
Contact block, gold Position 2	XX	No contact block	Terminals	Part No.
	A1	NO	2.8 × 0.5 mm	TH593566020
	A9	NO	Insulated faston	TH593560020
	A8	NO	Solder	TH593561020
	B1	NC	2.8 × 0.5 mm	TH593566050
	B9	NC	Insulated faston	TH593560050
	B8	NC	Solder	TH593561050
	C1	1 NO + 1 NC	2.8 × 0.5 mm	TH593566000
	C9	1 NO + 1 NC	Insulated faston	TH593560000
	C8	1 NO + 1 NC	Solder	TH593561000
	D1	2 NO + 2 NC	2.8 × 0.5 mm	TH593567000
	D9	2 NO + 2 NC	Insulated faston	TH593563000
	D8	2 NO + 2 NC	Solder	TH593564000
Bezel	E	Ø 25 mm (Factory fitted)		

The keyswitch cannot be installed without a bezel. Contact blocks will be supplied unassembled.

TR2

Panel Mounted

Rotary

TR2

Panel cut-out (mm) \varnothing 16.2/22.5

Characteristics

- 2 and 3 position
- sealed IP40 or IP65
- plastic or aluminium bezels
- NO, NC
- gold plated single or double pole contact blocks

Rating 250 VAC, 5 A

Dimensions (mm) 18×24
 18×18
 $\varnothing 18$
 $\varnothing 25$

Actuator black knob, with white indicating bar

Approvals UL, CSA, VDE



Popular products

Ordering Reference	Panel cut-out (mm)	Function	Actuator size (mm)	Environmental protection
TR21A2AC1C1A	\varnothing 16.2	2 Position	18×24	IP40
TR22A2CC1C1E	\varnothing 22.5	2 Position	\varnothing 25	IP65
TR21C2AC1C1A	\varnothing 16.2	3 Position	18×24	IP40
TR22C2CC1C1E	\varnothing 22.5	3 Position	\varnothing 25	IP65

Specifications

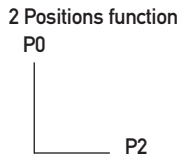
Mechanism	Knob actuated
Mounting	Central fixing with metal lock nut
Protection	IP40 or IP65
Bezel material	Thermoplastic or anodized aluminium alloy
Temperature range °C	-25°C to +85°C
Mechanical life	10 ⁶ cycles
Contact block	Slide-on assembly by the user
Contact block housing	Self-extinguishing duroplastic (UL 94 V0)
Terminal material	Silver alloy with 0.2 µm silver plating, 0.4 µm gold plating
Contact resistance	<30 mOhm
Number of contact blocks	User configurable NO or NC types up to a maximum of 2 double contact blocks
Terminals	Patented flexible solder – suitable for wire diameter 1 × 1.00 mm ² (braided), 2 × 0.75 mm (stranded) Faston - 2.8mm × 0.5mm
Vibration resistance	1.5 mm pp amplitude at 55 Hz

Recommended maximum electrical ratings

Voltage (max)	Resistive load (A)	Inductive load (A)	Approval
250 VAC	5.0 (0.7 pf)		UL, CSA, VDE - max. admissible circuit breaker C6A
12 VDC	5.0	3.0	General rating
24 VDC	4.0	2.0	General rating
36 VDC	3.0	1.7	General rating
48 VDC	2.0	1.5	General rating
60 VDC	1.5	1.2	General rating
125 VDC	0.5	0.3	General rating
250 VDC	0.3	0.2	General rating
Electrical life	50,000 cycles at 5A, 250 VAC, 0.7 pf		

TR2

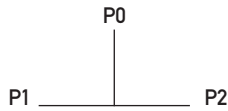
Rotary positions positions



A

B

3 Positions



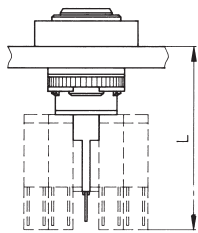
C

D

E

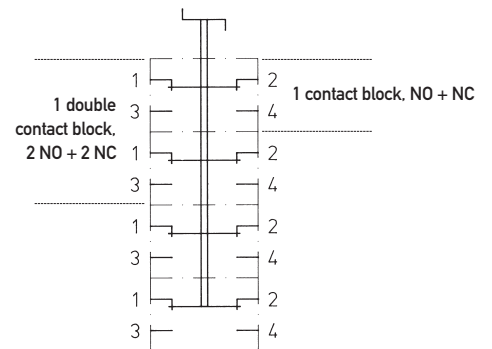
F

Dimensions



Length in mm (with contact block)
 plastic bezels 43
 aluminium bezels 42

Circuit diagram (2 double contact blocks)



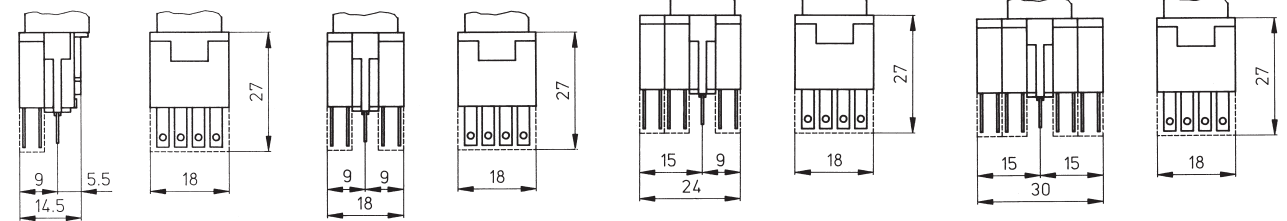
Contact blocks

1 contact block

2 contact blocks

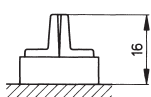
1 contact block +
1 double contact block

2 double contact blocks

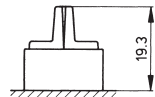


Bezel and rotary knob height

plastic bezel IP40

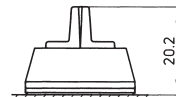


plastic bezel IP65

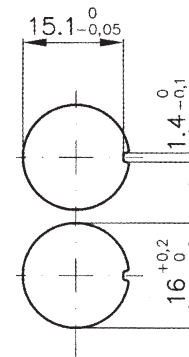


Panel cut-out
 $16.2 \text{ mm} \pm 0.1 \text{ mm}$
 (plastic)

aluminium bezel



Panel cut-out
 $22.5 \text{ mm} \pm 0.1 \text{ mm}$
 (aluminium)



Ordering Reference

Range	TR2			
Panel cut-out	1	16.2 mm for plastic bezel rotary switches		
	2	22.5 mm for Aluminium bezel rotary switches		
Switch body	A2A	2 Positions; IP40;	Momentary	TH508021000
16.2 mm panel cut-out	B2A	2 Positions; IP40;	Latching	TH508020000
	A2B	2 Positions; IP65;	Momentary	TH508026000
	B2B	2 Positions; IP65;	Latching	TH508025000
22.5 mm panel cut-out	A2C	2 Positions; Ø 25 mm Aluminium bezel IP65	Momentary	TH508031000
	B2C	2 Positions; Ø 25 mm Aluminium bezel IP65	Latching	TH508030000
Contact block, gold Position 1	XX	No contact block		
	A1	NO	2.8 × 0.5 mm	TH593566020
	A9	NO	Insulated faston	TH593560020
	A8	NO	Solder	TH593561020
	B1	NC	2.8 × 0.5 mm	TH593566050
	B9	NC	Insulated faston	TH593560050
	B8	NC	Solder	TH593561050
	C1	1 NO + 1 NC	2.8 × 0.5 mm	TH593566000
	C9	1 NO + 1 NC	Insulated faston	TH593560000
	C8	1 NO + 1 NC	Solder	TH593561000
	D1	2 NO + 2 NC	2.8 × 0.5 mm	TH593567000
	D9	2 NO + 2 NC	Insulated faston	TH593563000
	D8	2 NO + 2 NC	Solder	TH593564000
Contact block, gold Position 2	XX	No contact block		
	A1	NO	2.8 × 0.5 mm	TH593566020
	A9	NO	Insulated faston	TH593560020
	A8	NO	Solder	TH593561020
	B1	NC	2.8 × 0.5 mm	TH593566050
	B9	NC	Insulated faston	TH593560050
	B8	NC	Solder	TH593561050
	C1	1 NO + 1 NC	2.8 × 0.5 mm	TH593566000
	C9	1 NO + 1 NC	Insulated faston	TH593560000
	C8	1 NO + 1 NC	Solder	TH593561000
	D1	2 NO + 2 NC	2.8 × 0.5 mm	TH593567000
	D9	2 NO + 2 NC	Insulated faston	TH593563000
	D8	2 NO + 2 NC	Solder	TH593564000
Bezel			IP40	IP65
	A	18 mm × 24 mm plastic	TH493060000	TH593060000
	B	18 mm × 18 mm plastic	TH493062000	TH593062000
	D	Ø 18 mm plastic	TH493064000	TH593064000
	E	Ø 25 mm aluminium		

The rotary switch cannot be installed without a bezel. The IP40 bezels are interchangeable before installation. Once an IP65 bezel has been assembled it cannot be removed. Contact blocks will be supplied unassembled.

Ordering Reference

Range	TR2		
Panel cut-out	1 16.2 mm for plastic bezel rotary switches 2 22.5 mm for Aluminium bezel rotary switches		
Switch body 16.2 mm	C2A 3 Positions; IP40;	Latching P0 + P1 + P2	TH508040000
	D2A 3 Positions; IP40;	Momentary P1 + P2	TH508041000
Panel cut-out	E2A 3 Positions; IP40;	Momentary P1 Latching P0 + P2	TH508042000
	F2A 3 Positions; IP40;	Momentary P2 Latching P0 + P1	TH508043000
	C2B 3 Positions; IP65;	Latching P0 + P1 + P2	TH508045000
	D2B 3 Positions; IP65;	Momentary P1 + P2	TH508046000
	E2B 3 Positions; IP65;	Momentary P1 Latching P0 + P2	TH508047000
	F2B 3 Positions; IP65;	Momentary P2 Latching P0 + P1	TH508048000
22.5 mm	C2C 3 Positions; Ø 25 mm Aluminium bezel IP65	Latching P0 + P1 + P2	TH508060000
Panel cut-out	D2C 3 Positions; Ø 25 mm Aluminium bezel IP65	Momentary P1 + P2	TH508061000
	E2C 3 Positions; Ø 25 mm Aluminium bezel IP65	Momentary P1 Latching P0 + P2	TH508062000
	F2C 3 Positions; Ø 25 mm Aluminium bezel IP65	Momentary P2 Latching P0 + P1	TH508063000
Contact block, gold Position 1	XX No contact block		
	A1 NO	2.8 × 0.5 mm	TH593566020
	A9 NO	Insulated faston	TH593560020
	A8 NO	Solder	TH593561020
	B1 NC	2.8 × 0.5 mm	TH593566050
	B9 NC	Insulated faston	TH593560050
	B8 NC	Solder	TH593561050
	C1 1 NO + 1 NC	2.8 × 0.5 mm	TH593566000
	C9 1 NO + 1 NC	Insulated faston	TH593560000
	C8 1 NO + 1 NC	Solder	TH593561000
	D1 2 NO + 2 NC	2.8 × 0.5 mm	TH593567000
	D9 2 NO + 2 NC	Insulated faston	TH593563000
	D8 2 NO + 2 NC	Solder	TH593564000
Contact block, gold Position 2	XX No contact block		
	A1 NO	2.8 × 0.5 mm	TH593566020
	A9 NO	Insulated faston	TH593560020
	A8 NO	Solder	TH593561020
	B1 NC	2.8 × 0.5 mm	TH593566050
	B9 NC	Insulated faston	TH593560050
	B8 NC	Solder	TH593561050
	C1 1 NO + 1 NC	2.8 × 0.5 mm	TH593566000
	C9 1 NO + 1 NC	Insulated faston	TH593560000
	C8 1 NO + 1 NC	Solder	TH593561000
	D1 2 NO + 2 NC	2.8 × 0.5 mm	TH593567000
	D9 2 NO + 2 NC	Insulated faston	TH593563000
	D8 2 NO + 2 NC	Solder	TH593564000
Bezel	A 18 mm × 24 mm plastic	IP40	IP65
	B 18 mm × 18 mm plastic	TH493060000	TH593060000
	D Ø 18 mm plastic	TH493062000	TH593062000
	E Ø 25 mm aluminium	TH493064000	TH593064000

The rotary switch cannot be installed without a bezel. The IP40 bezels are interchangeable before installation. Once an IP65 bezel has been assembled it cannot be removed. Contact blocks will be supplied unassembled.

Accessories

Contact blocks

TH593566020	NO	2.8 × 0.5mm	Contact blocks for TP2, TK2, TR2	gold plated
TH593560020	NO	Insulated faston		
TH593561020	NO	Solder		
TH593566050	NC	2.8 × 0.5mm		
TH593560050	NC	Insulated faston		
TH593561050	NC	Solder		
TH593566000	1 NO + 1 NC	2.8 × 0.5mm		
TH593560000	1 NO + 1 NC	Insulated faston		
TH593561000	1 NO + 1 NC	Solder		
TH593569000	2 NO + 2 NC	2.8 × 0.5mm		
TH593563000	2 NO + 2 NC	Insulated faston		
TH593564000	2 NO + 2 NC	Solder		

TH493500000			Contact blocks for TP4, TP5	gold plated
TH493520000	End plate for TP4, TP5			
TH493521000	(for 1 contact block)		Pairs of screws for TP4, TP5	
TH493522000	(for 2 contact blocks)			
TH493523000	(for 3 contact blocks)			

Mounting nuts (whole range)

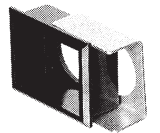
TH593545000	Fixation nuts M16 × 1 (TP2, TP5, TP4)
TH593547000	Fixation nuts M22 × 1 flat (TP2, TP5, TP4)
TH493547000	Fixation nuts M22 × 1 large (TP5, TP4)



Countersunk mounting bezel sets (TP2, TP5, TI2, TI5)

For concealed versions only

TH593072000	for Switches 18 × 24 mm, IP40
TH593082000	for Switches 18 × 24 mm, IP67
TH593073000	for Switches 18 × 18 mm, IP40
TH593083000	for Switches 18 × 18 mm, IP67



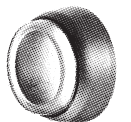
Panel plugs (TP2, TP5)

TH493000000	18 × 24, IP40
TH493002000	18 × 18, IP40
TH493004000	∅ 18, IP40

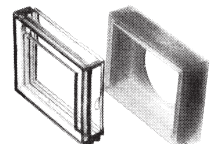


Protecting covers (TP2, TP5, TP4)

TH493033000	Sealing ring D26, alu natural, silicon cap. IP65 (TP5, TP2, TI5, TI2 22.5 mm)
TH493033001	Sealing ring D25, alu natural, strong pebax cap. IP65 (TP5, TP2, TI5, TI2 22.5 mm)



TH493031000	Splashproof protection (transp. plast. upper part only) for exposed bezel 18 × 24 (TP2, TP5, TP4)
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TH493010000	Guard bracket, for switches 18 × 24, anodised aluminium (wide sides raised)
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TH493011000	Guard bracket, for switches 18 × 18, anodised aluminium (two sides raised)
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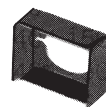


Accessories

TH493012000 Guard bracket, for switches \varnothing 18, anodised aluminium



TH493020000 Guard bracket, for switches 18 × 24, black plastic (all sides raised)



TH593032000 Protecting cover with transparent plastic lid, 18 × 18



TH593035000 Protecting cover with transparent plastic lid, 18 × 24



Anti-rotation devices (TK2, TR2, TE8)

TH053205000 for panel cut-out 16.2 mm (TK2, TR2)



TH493532000 for panel cut-out 22.5 mm (TK2, TR2)



TH593080000 Adapter set, key- and rotary switches (TK2, TR2)



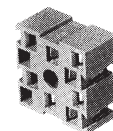
TH060661000 panel cut-out 16.2 mm (TE8)



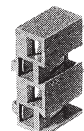
Plug in socket (TP2)

TH593578000 for 1 contact block TP2 with indicator terminals

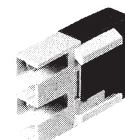
TH593568000 for 2 contact blocks TP2 with indicator terminals



TH593582000 for 1 contact block TP2 without indicator terminals



TH593584000 Diode carrier with 2 diodes 1N4007, faston connection without insulation



Accessories

Extra and spare keys (TK2)

TH493049001 to TH493049020 (KABA MICRO, EB0001 – EB0020)

Faston Connectors (TP2, TK2, TR2, TP8)

TH593571000 Faston pin, 2.8 × 0.5 mm, insulated, for wires 0.8 – 1.4 mm² (TP2, TK2, TR2)



TH593572000 Faston pin, 2.8 × 0.5 mm, for wires 0.5 – 1.0 mm² (TP2, TK2, TR2, TP8)



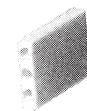
TH593573000 Faston pin, 2.8 × 0.5 mm, for faston casings, for wires 0.3 – 0.6 mm² (TP2, TK2, TR2)



TH593574000 Sleeve and casing for th25 contact block 1 NO + 1 NC (TP2, TK2, TR2)



TH593575000 Sleeve and casing for th25 lamp terminals (TP2, TK2, TR2)



Accessories

Miscellaneous (Lamp extractor, metal and plastic spanners)

TH492000000 Lamp extractor

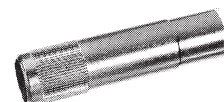


TH492005000 Lens extractor

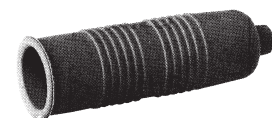


TH492100000 Metal box-spanner, fixation nut M16 × 1

TH492105000 Metal box-spanner, fixation nut M22 × 1



TH493510000 Insulated terminal cover, for terminal wires



Lamps (TP2, TP5, TI2, TI5)

Incandescent lamps

TH590000000 6 V

TH590001000 12 V

TH590006000 24 V

TH590004000 48 V

Midget – grooved Led

TH590231000 Yellow 6 V

TH590234000 Yellow 12 V

TH590237000 Yellow 24V

TH590240000 Yellow 48 V

TH590232000 Green 6 V

TH590235000 Green 12 V

TH590238000 Green 24 V

TH590241000 Green 48 V

TH590230000 Red 6 V

TH590233000 Red 12 V

TH590236000 Red 24 V

TH590239000 Red 48 V