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DEGSON

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PB 24-E02

The catalog is for reference purpose only and details are base on company's specifications

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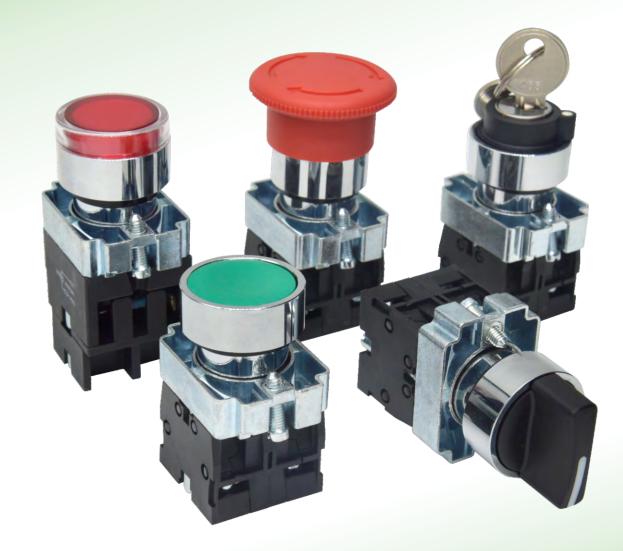
DT Series Push Button

Q-FLEX

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info@q-flex.fi | q-flex.fi

ISO9001 ISO14001 ISO45001 ISO80079-34 ISO/TS22163 IATF16949 IRIS U US CE CoC RoHS REACH

BRIEF INTRODUCTION

01
Founded in 1990,DEGSON is well known as a comprehensive industrial solution provider,with UL-CTDP,VDE-TDAP and CNAS approved laboratory. DEGSON has passed ISO9001, ISO14001, ISO45001, IS080079-34,ISO/TS22163 and IATF16949 Management System,and is a national high-tech enterprise.

02
DEGSON is engaged in supplying highly reliable and durable products to serve global customers. The company has a market-leading capability of mould processing, automatic manufacturing and advanced testing. DEGSON has the complete engineering ability to support global customers with the professional customization solution and value-added service.

03
DEGSON products are widely recognized in China, the USA, Germany, the UK, Italy, Spain, Turkey, Japan, South Korea, Singapore, etc. totally hundred countries and regions. DEGSON supply high quality products and provide professional services globally in the industry sectors likely industrial automation, instrument, electric power, railway, marine and offshore, new energy, E-bike industrial elevator, lighting, security, machinery, etc. The company won the recognition from partners among Fortune 500 and industry leading enterprises.

04
Based on the core values of "Clients First, Win-win Strategy, Responsibility Integrity, Excellence Pursuit", DEGSON continuously integrates professional technical resources, R&D innovation, product manufacturing and technology application capabilities. Relying on global sales network, DEGSON aims to supply series of multiple varieties of high-quality products and services. We provide global customers with professional and quick connected application solutions, help customers continue to create value. DEGSON is making contributions to creating a smart and interconnected world.

DEGSON Global Production Base and R&D Center

China site

High-tech zone site

Vietnam site

Nanjing R&D Center

Luoyang R&D Center

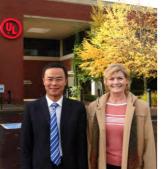## DEGSON products have been exported to more than 100 countries and areas in the globe.

China Headquarters
Vietnam Factory

Shanghai subsidiary
Hongkong subsidiary
Germany subsidiary
Singapore subsidiary

UL-CTDP (USA), VDE-TDAP (Germany) and CNAS labs
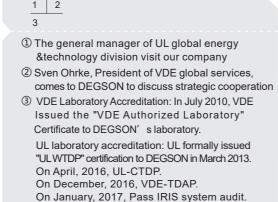
Strategic cooperation with UL and VDE

① The general manager of UL global energy &technology division visit our company

② Sven Ohrke, President of VDE global services, comes to DEGSON to discuss strategic cooperation

③ VDE Laboratory Accreditation: In July 2010, VDE Issued the "VDE Authorized Laboratory" Certificate to DEGSON's laboratory.

UL laboratory accreditation: UL formally issued "UL WTDP" certification to DEGSON in March 2013.
On April, 2016, UL-CTDP.
On December, 2016, VDE-TDAP.
On January, 2017, Pass IRIS system audit.

| ISO9001 | ISO14001 | IATF16949 | ISO/TS 22163 | UL - CTDP | VDE - TDAP |

| CNAS certificate | EX certificate | UL Certificates:10,Covering 4000+Products | VDE Certificates:178,Covering 3000+Products | TUV certificate | European invention patent |

CONTENTS

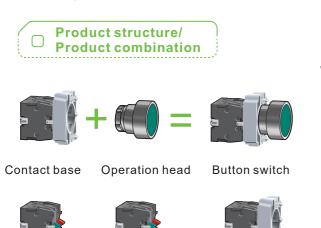## DT22MU Button Switch Introduction

□ Overview

DT22MU series button switches are modular design to meet customer requirements for ease of installation, flexibility and durability, connecting with the middle seat adopts the installation method of screw fixing, which is shock-resistant, drop-resistant and vibration-resistant, and is suitable for use in various harsh environments. Product design and development meet IEC60947-5-1, GB/T14048.5 and other standards, can be widely used in machine building, metro&railway, power, power wind and other industries
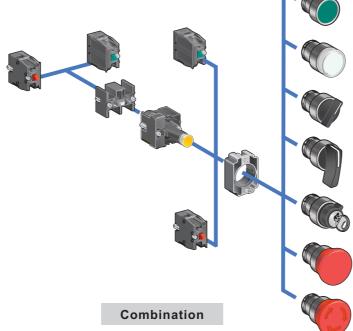
□ Features

- Installation aperture: φ22mm
- Button material: the case is made of zinc alloy metal
- The use of modular design to meet customer requirements for ease of installation, flexibility, product durability, etc.
- The button head and the middle seat are fixed by screws, with stronger impact resistance, drop resistance, vibration resistance and other performance
- The products meet the standards of IEC 60947-5-1 and GB/T14048.5
- The highest protection level can reach IP65

□ Product structure/ Product combination

Contact base　　Operation head　　Button switch

Connection of switch contacts: up to 6 contacts can be added to the module

Structure　　　　**Combination**

□ Main Technical Parameters

Working environment temperature	-25℃~+55℃ (no freezing)			
Working environment humidity	45-85%RH		Momentary button	≥2 million times
Contact resistance	≤50mΩ	Mech-anical life	Maintained button, Selector switch	≥1 million times
Insulation resistance	≥100MΩ			
Power frequency withstand voltage	1890VAC / 50Hz / 60s		The key button Emergency push button	≥500,000 times
Vibration resistance	The amplitude is about 1.0mm / 50Hz			
Impact resistance	Button 70g , Mushroom button 15g , selector switch 200g	Electrical life		≥200,000 times

□ Lamp Bead Specification

Types of lamp beads	Bi-directional LED lamp beads		
Rated voltage	AC/DC 6V	AC/DC 12V	AC/DC 24V
	AC/DC 36V	AC/DC 48V	AC/DC 110V
	AC/DC 220V	AC/DC 380V	/
	AC 110V	AC 220V	AC 380V
Lamp color	Red Green Yellow Blue White		
Service life	≥40000h		

□ Switch Rating

Rated insulation voltage Ui			660V				
Conventional heating current Ith			10A				
Rated operating voltage Ue			24V	48V	110V	220V	380V
Rated working current Ie	AC 50/60Hz	Resistive load	10A	/	10A	10A	/
		Inductive load	10A	/	6A	3A	2A
	DC	Resistive load	8A	4A	2.2A	1.1A	/
		Inductive load	6A	2A	1.2A	0.6A	/
Contact material			Silver alloy				
Minimum adaptive load: 3V AC/DC5mA (Reference value) (available depending on the environment and load type)							

□ Switch Element Contact Explanation

The numbers on the black label of the contact indicate the terminals:

- "1,2" means the two terminals of the normally closed contact, and"3,4" means the two terminals of the normally open contact.

Contact Codes	10	01	11	20	02
Contact Names	One open (1NO)	One closed (1NC)	One open and one closed (1NO 1NC)	Two closed (2NO)	Two closed (2NC)
State Diagram					

Naming Rules Explanation

DT22MU- ☐ ■ / / △ ▲

Corresponding Characters	Symbol name	Specific instructions
DT22MU	Product series	DT22 module button
☐	Actuator type	FR: Momentary Flat / FL: Maintained Flat / FRD: Momentary Flat With Lamp
■	Contact form	10: 1NO / 01: 1NC / 11: 1NO1NC
△	Color	RD: Red / GN: Green / YE: Yellow / WH: White / BU: Blue / BL: Black
▲	Lamp module voltage	AC/DC: 6, 12, 24, 36, 48, 110, 220V / AC: 110, 220, 380V / No letter indicates no light

Example of Complete Model: DT22MU-FR10/RD Red self-leveling button (1NO1NC).
Example of Complete Model: DT22MU-FRD11/RDAC/DC24V Red self-leveling button with light (1NO1NC AC/DC24V)

Naming Rules Explanation

Product series	Actuator type	
	FR:(Flat reset)	10C:A normally open contact
	FL:(Flat lock)	01C:A normally closed contact
	FRD:(Flat reset indicator)	LC:Locking module
	FLD:(Flat lock indicator)	ZZ:Middle base
	MR:(Mushroom reset)	DZ:lamp base
	EP:(Emergency)	
	S2R:(selector 2 switch reset)	SL3R:(Self-repeating 3 position long handle selector switch)
DT22MU	S2L:(selector 2 switch lock)	SL3L:(Self-locking 3 position long handle selector switch)
	S3R:(selector 3 switch reset)	K2R:Key-lock selector 2 switch reset
	S3L:(selector 3 switch lock)	K2L:Key-lock selector 2 switch lock
	SL2R:(Self-repeating 2 position long handle selector switch)	K3R:Key-lock selector 3 switch reset
	SL2L:(Self-locking 2 position long handle selector switch)	K3L:Key-lock selector 3 switch lock

Contact form	Color	Lamp module voltage
10: 1NO	RD: Red	AC/DC 6V
01: 1NC	GN: Green	AC/DC 12V
11: 1NO1NC	YE: Yellow	AC/DC 24V
20: 2NO	WH: White	AC/DC 36V
02: 2NC	BU: Blue	AC/DC 48V
22: 2NO2NC	BL: Black	AC/DC 110V
30: 3NO		AC/DC 220V
03: 3NC		AC/DC 380V
33: 3NO3NC		AC 110V
		AC 220V
		AC 380V

Normally open and normally closed contacts can be combined as needed

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DT22MU Button Types

Products	Operation type	Articles number	Color	Voltage with lamp	Dimension diagram
	Momentary Flat	DT22MU-FR■ / △	● Red - RD ● Green - GN ● Yellow - YE ○ White - WH ● Blue - BU		
	Maintained Flat	DT22MU-FL■ / △			
	Momentary Flat With Lamp	DT22MU-FRD■ / △		AC/DC6V AC/DC12V AC/DC24V AC/DC36V AC/DC48V AC/DC110V AC/DC220V AC110V AC220V AC380V	
	Maintained Flat With Lamp	DT22MU-FLD■ / △			
	Momentary Mushroom	DT22MU-MR■ / △	● Red - RD		

○ **Explanation**

- ■ before the slash: Fill in the number of normally open and normally closed contacts.
- △ after the slash: Fill in the color.
- ▲ after the slash: Fill in the voltage for the lighted version.
- Please specify if you need customized service.

DT22MU Button Types

Products	Operation type	Articles number	Color	Voltage with lamp	Dimension diagram
	Momentary Mushroom	DT22MU-ML ■ / △			
	Emergency Push Button	DT22MU-EP ■ / △	● Red - RD		
	Two-position Momentary Selector Switch Two-positon Maintained Selector Switch Three-position Momentary Selector Switch Three-positon Maintained Selector Switch	DT22MU-S2R ■ / △ DT22MU-S2L ■ / △ DT22MU-S3R ■ / △ DT22MU-S3L ■ / △			
	Two-position Momentary long handle Selector Switch Two-position Maintained long handle Selector Switch Three-position Momentary long handle Selector Switch Three-position Maintained long handle Selector Switch	DT22MU-SL2R ■ / △ DT22MU-SL2L ■ / △ DT22MU-SL3R ■ / △ DT22MU-SL3L ■ / △	● Black - BL		
	Two-positon Momentary Key Switch Two-positon Maintained Key Switch Three-positon Momentary Key Switch Three-positon Maintained Key Switch	DT22MU-K2R ■ / △ DT22MU-K2L ■ / △ DT22MU-K3R ■ / △ DT22MU-K3L ■ / △			

DT22MU Accessories Types

Products	Operation type	Color	Articles number	Dimension diagram
	Flat Button Head	● Red - RD	DT22MU-FR/RD	
		● Green - GN	DT22MU-FR/GN	
		● Yellow - YE	DT22MU-FR/YE	
		○ White - WH	DT22MU-FR/WH	
		● Blue - BU	DT22MU-FR/BU	
	Flat Button Head With Lamp	● Red - RD	DT22MU-FRD/RD	
		● Green - GN	DT22MU-FRD/GN	
		● Yellow - YE	DT22MU-FRD/YE	
		○ White - WH	DT22MU-FRD/WH	
		● Blue - BU	DT22MU-FRD/BU	
	Mushroom Button Head	● Red - RD	DT22MU-MR/RD	
	Emergency Stop Button Head	● Red - RD	DT22MU-EP/RD	

○ **Explanation**

- ■ before the slash: Fill in the number of normally open and normally closed contacts.
- △ after the slash: Fill in the color.
- ▲ after the slash: Fill in the voltage for the lighted version.
- Please specify if you need customized service.

DT22MU Accessories Types

Products	Operation type	Color	Articles number	Dimension diagram
	Two-position Momentary Selector Switch head	● Black - BL	DT22MU-S2R/BL	
	Two-positon Maintained Selector Switch head		DT22MU-S2L/BL	
	Three-position Momentary Selector Switch head		DT22MU-S3R/BL	
	Three-positon Maintained Selector Switch head		DT22MU-S3L/BL	
	Two-position Momentary long handle Selector Switch head	● Black - BL	DT22MU-SL2R/BL	
	Two-position Maintained long handle Selector Switch head		DT22MU-SL2L/BL	
	Three-position Momentary long handle Selector Switch head		DT22MU-SL3R/BL	
	Three-position Maintained long handle Selector Switch head		DT22MU-SL3L/BL	
	Two-positon Momentary Key Switch head	● Black - BL	DT22MU-K2R/BL	
	Two-positon Maintained Key Switch head		DT22MU-K2L/BL	
	Three-positon Momentary Key Switch head		DT22MU-K3R/BL	
	Three-positon Maintained Key Switch head		DT22MU-K3L/BL	

DT22MU Accessories Types

Products	Operation type	Color/Contact type	Articles number	Dimension diagram
	Button Base With Lamp-1NO	● Red - RD	DT22MU-10C/DZ/RD	
		● Green - GN	DT22MU-10C/DZ/GN	
		● Yellow - YE	DT22MU-10C/DZ/YE	
		○ White - WH	DT22MU-10C/DZ/WH	
		● Blue - BU	DT22MU-10C/DZ/BU	
	Button Base With Lamp-1NC	● Red - RD	DT22MU-01C/DZ/RD	
		● Green - GN	DT22MU-01C/DZ/GN	
		● Yellow - YE	DT22MU-01C/DZ/YE	
		○ White - WH	DT22MU-01C/DZ/WH	
		● Blue - BU	DT22MU-01C/DZ/BU	
	Contact Base	1NO	DT22MU-10C/ZZ	
		1NC	DT22MU-01C/ZZ	
	Contact Module	1NO	DT22MU-10C	
		1NC	DT22MU-01C	
	Locking Module	Note: for the button (except"Stop button", select, key switch) and with the light button installed in front of the contact module to achieve press-lock-press-release	DT22MU-LC	

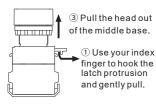## DT22 Button Switch Introduction

Overview

The DT series button switch is a new product introduced by DEGSON after years of research in customer field applications and industrial control. It is primarily used to control the connection and disconnection of electrical circuits in machinery, thereby achieving the purpose of controlling the operation of electrical equipment such as motors. This series of products uses advanced fastening-free self-locking connections, ensuring reliable contacts and efficient assembly and disassembly. The products have enhanced resistance to shock and vibration, making them suitable for use in demanding environmental conditions. The design and development of these products meet the requirements of standards such as IEC 60947-5-1 and GB/T 14048.5, and they can be widely applied in industries such as mechanical manufacturing, rail transportation, elevators, power, and wind power.

Features

- Installation aperture: Φ22mm
- Button material: DT22A series are plastic buttons: DT22M series are metal buttons
- Self-locking connection without fasteners, reliable contact, efficient disassembly and assembly
- The product has strong anti-impact and anti-vibration performance, and is suitable for use in all kinds of harsh environment
- The products meet the standards such as IEC60947-5-1GB/T14048.5
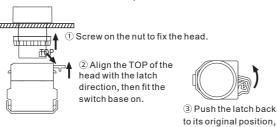- The highest protection level can reach IP65

Disassembly and Installation Method

1. Button Disassembly Steps:

③ Pull the head out of the middle base.

① Use your index finger to hook the latch protrusion and gently pull.

② After hooking the protrusion, move the latch to the other side.

2. Button Installation Steps:

① Screw on the nut to fix the head.

② Align the TOP of the head with the latch direction, then fit the switch base on.

③ Push the latch back to its original position, securing the head.

Main Technical Parameters

Working environment temperature	-25℃~+55℃ (no freezing)		
Working environment humidity	45-85%RH		
Contact resistance	≤50mΩ		
Insulation resistance	≥100MΩ		
Power frequency withstand voltage	1890VAC / 50Hz / 60s		
Vibration resistance	The amplitude is about 1.0mm / 50Hz		
Impact resistance	>10g		

Mech-anical life	Momentary button	3,000,000 times
	Selector, Key-lock switch	500,000 times
	Emergency push button	300,000 times
Electrical life		200,000 times
Wiring		Screw connection, wire diameter: 2x1.5mm Maximum wiring plug 6.3x 0.8mm

Lamp Bead Specification

Types of lamp beads	Bi-directional LED lamp beads		
Rated voltage	AC/DC 6V	AC/DC 12V	AC/DC 24V
	AC/DC 36V	AC/DC 48V	AC/DC 110V
	AC/DC 220V	AC/DC 380V	/
	AC 110V	AC 220V	AC 380V
Lamp color	Red Green Yellow Blue White		
Service life	≥40000h		

Switch Rating

Rated insulation voltage Ui			660V				
Conventional heating current Ith			10A				
Rated operating voltage Ue			24V	48V	110V	220V	380V
Rated working current Ie	AC 50/60Hz	Resistive load	10A	/	10A	10A	
		Inductive load	10A	/	6A	3A	2A
	DC	Resistive load	8A	4A	2.2A	1.1A	/
		Inductive load	6A	2A	1.2A	0.6A	/
Contact material			Silver alloy				

Minimum adaptive load: 3V AC/DC5mA (Reference value) (available depending on the environment and load type)

Switch Element Contact Explanation

The numbers on the black label of the contact indicate the terminals:

- The first digit "1" represents the first pair of contacts on the first switch element, while "2" represents the second pair of contacts on the first switch element.
- The second digit "1,2" represents the two terminals of the normally closed contacts, while "3, 4" represents the two terminals of the normally open contacts.

Contact Codes	11	20	02	10	01
Contact Names	One open and one closed (1NO1NC)	Two open (2NO)	Two closed (2NC)	One open (1NO)	One closed (1NC)
State Diagram					

Naming Rules Explanation

DT22A- ☐ ■ / △ ▲

Corresponding Characters	Symbol name	Specific instructions
DT22A	Product series	DT22A: Φ22 plastic button / DT22M: Φ22 metal button
☐	Actuator type	FR: Momentary Flat / FL: Maintained Flat / FRD: Momentary Flat With Lamp
■	Contact form	10: 1NO / 01: 1NC / 11: 1NO1NC
△	Color	RD: Red / GN: Green / YE: Yellow / WH: White / BU: Blue / BL: Black
▲	Lamp module voltage	AC/DC: 6, 12, 24, 36, 48, 110, 220V / AC: 110, 220, 380V / No letter indicates no light

Example of Complete Model: DT22A-FR11/RD red self-leveling button (1NO1NC).
Example of Complete Model: DT22A-FRD11/RDAC/DC24V Red self-leveling button with light (1NO1NC AC/DC24V)

DT22A- ☐ / △ ▲ ◇

Corresponding Characters	Symbol name	Specific instructions
DT22A	Product series	DT22A: Φ22 series indicator light / DT16A: Φ16 series indicator light
☐	Product type	PL: indicator / BZ: buzzer / FBZ: flash buzzer
△	Color	RD: red / GN: green / YE: yellow / WH: White / BU: blue / BL: black (for buzzer only)
▲	Voltage level	AC/DC:6,12,24,36,48,110,220V/AC:110,220,380V
◇	Product specification	S: short / L: long

Naming Rules Explanation

Product series		Actuator type
	FR: (Flat reset)	S2RD: (selector 2 switch reset indicator)
	FL: (Flat lock)	S2LD: (selector 2 switch lock indicator)
	FRH: (Flat reset high)	S3R: (selector 3 switch reset)
	FLH: (Flat lock high)	S3L: (selector 3 switch lock)
	FRD: (Flat reset indicator)	S31: Left self-locking right self-repeating three-position selector switch
	FLD: (Flat lock indicator)	S32: Left self-locking right self-repeating three-position selector switch
DT22A/ DT22M:	FRHD: (Flat reset high indicator)	S3RD: (selector 3 switch reset indicator)
	FLHD: (Flat lock high indicator)	S3LD: (selector 3 switch lock indicator)
	MR: (Mushroom reset)	S31D: Left self-locking right self-repeating three-position trap selector switch with light
	ML: (Mushroom lock)	S32D: Left self-locking right self-repeating three-position trap selector switch with light
	MRD: (Mushroom reset indicator)	K2R: (Key-lock selector 2 switch reset)
	MLD: (Mushroom lock indicator)	K2L: (Key-lock selector 2 switch lock)
	EP: (Emergency)	K3R: (Key-lock selector 3 switch reset)
	S2R: (selector 2 switch reset)	K3L: (Key-lock selector 3 switch lock)
	S2L: (selector 2 switch lock)	K3S1: Left self-locking right self-repeating three-position button switch
		K3S2: Left self-locking right self-repeating three-position button switch

Contact form	Color	Lamp module voltage
10: 1NO	RD: Red	Voltage level AC/DC:
01: 1NC	GN: Green	6,12,24,36,48,110,220V
11: 1NO1NC	YE: Yellow	AC:110,220,380V
20: 2NO	WH: White	
02: 2NC	BU: Blue	
22: 2NO2NC	BL: Black	
30: 3NO		
03: 3NC		
33: 3NO3NC		

DT22A Button Types

Products	Operation type	Articles number	Color	With light voltage	Product dimension diagram
	Momentary Flat	DT22A-FR ■ / △			
	Maintained Flat	DT22A-FL ■ / △			
	Momentary Flat High	DT22A-FRH ■ / △			
	Maintained Flat High	DT22A-FLH ■ / △	● Red - RD ● Green - GN ● Yellow - YE ○ White - WH ● Blue - BU ● Black - BL		
	Momentary Mushroom	DT22A-MR ■ / △			
	Maintained Mushroom	DT22A-ML ■ / △			
	Two-position Momentary Selector Switch	DT22A-S2R ■ / △			
	Two-position Maintained Selector Switch	DT22A-S2L ■ / △			
	Three-position Momentary Selector Switch	DT22A-S3R ■ / △			
	Three-position Maintained Selector Switch	DT22A-S3L ■ / △			

○ Explanation

- ■ before the slash: Fill in the number of normally open and normally closed contacts.
- △ after the slash: Fill in the color.
- ▲ after the slash: Fill in the voltage for the lighted version.
- Please specify if you need customized service.

DT22A Button Types

Products	Operation type	Articles number	Color	With light voltage	Product dimension diagram
	Two-position Momentary Key Switch	DT22A-K2R■ / △			
	Two-position Maintained Key Switch	DT22A-K2L■ / △			
	Three-position Momentary Key Switch	DT22A-K3R■ / △			
	Three-position Maintained Key Switch	DT22A-K3L■ / △			
	Emergency Push Button	DT22A-EP■ / △	● Red - RD ● Green - GN ● Yellow - YE ○ White - WH ● Blue - BU ● Black - BL	AC/DC6V AC/DC12V AC/DC24V AC/DC36V AC/DC48V AC/DC110V AC/DC220V AC110V AC220V AC380V	
	Emergency Push With Key	DT22A-KEP■ / △			
	Momentary Flat With Lamp	DT22A-FRD■ / △ ▲			
	Maintained Flat With Lamp	DT22A-FLD■ / △ ▲			
	Momentary Mushroom With Lamp	DT22A-MRD■ / △ ▲			
	Maintained Mushroom With Lamp	DT22A-MLD■ / △ ▲			

○ Explanation

- ● ■ before the slash: Fill in the number of normally open and normally closed contacts.
- ● △ after the slash: Fill in the color.
- ● ▲ after the slash: Fill in the voltage for the lighted version.
- ● Please specify if you need customized service.

13

DT22A Button Types

Products	Operation type	Articles number	Color	With light voltage	Product dimension diagram
	Two-position Momentary selector switch With Lamp	DT22A-S2RD■ / △ ▲			
	Two-position Maintained selector switch With Lamp	DT22A-S2LD■ / △ ▲			
	Three-position Momentary selector switch With Lamp	DT22A-S2RD■ / △ ▲			
	Three-position Maintained selector switch With Lamp	DT22A-S2LD■ / △ ▲			
	Pilot Lamp	DT22A-PL■ / △ ▲	● Red - RD ● Green - GN ● Yellow - YE ○ White - WH ● Blue - BU ● Black - BL	AC/DC6V AC/DC12V AC/DC24V AC/DC36V AC/DC48V AC/DC110V AC/DC220V AC110V AC220V AC380V	
	Buzzer	DT22A-BZ■ / △ ▲			
	Flashing Buzzer	DT22A-FBZ■ / △ ▲			

○ Explanation

- ● ■ before the slash: Fill in the number of normally open and normally closed contacts.
- ● △ after the slash: Fill in the color.
- ● ▲ after the slash: Fill in the voltage for the lighted version.
- ● Please specify if you need customized service.

14

DT22M Button Types

Products	Operation type	Articles number	Color	With light voltage	Product dimension diagram
	Momentary Flat	DT22M-FR ■ / △			
	Maintained Flat	DT22M-FL ■ / △			
	Momentary Flat High	DT22M-FRH ■ / △			
	Maintained Flat High	DT22M-FLH ■ / △	● Red - RD ● Green - GN ● Yellow - YE ○ White - WH ● Blue - BU ● Black - BL		
	Momentary Mushroom	DT22M-MR ■ / △			
	Maintained Mushroom	DT22M-ML ■ / △			
	Two-position Momentary Selector Switch	DT22M-S2R ■ / △			
	Two-position Maintained Selector Switch	DT22M-S2L ■ / △			
	Three-position Momentary Selector Switch	DT22M-S3R ■ / △			
	Three-position Maintained Selector Switch	DT22M-S3L ■ / △			
	Two-position Momentary Key Switch	DT22M-K2R ■ / △			
	Two-position Maintained Key Switch	DT22M-K2L ■ / △			
	Three-position Momentary Key Switch	DT22M-K3R ■ / △			
	Three-position Maintained Key Switch	DT22M-K3L ■ / △			

Explanation

- ■ before the slash: Fill in the number of normally open and normally closed contacts.
- △ after the slash: Fill in the color.
- ▲ after the slash: Fill in the voltage for the lighted version.
- Please specify if you need customized service.

DT22M Button Types

Products	Operation type	Articles number	Color	With light voltage	Product dimension diagram
	Emergency Push Button	DT22M-EP ■ / △			
	Momentary Flat With Lamp	DT22M-FRD ■ / △ ▲			
	Maintained Flat With Lamp	DT22M-FLD ■ / △ ▲	● Red - RD ● Green - GN ● Yellow - YE ○ White - WH ● Blue - BU ● Black - BL	AC/DC6V AC/DC12V AC/DC24V AC/DC36V AC/DC48V AC/DC110V AC/DC220V AC110V AC220V AC380V	
	Momentary Flat High With Lamp	DT22M-FRHD ■ / △ ▲			
	Maintained Flat High With Lamp	DT22M-FLHD ■ / △ ▲			
	Momentary Mushroom With Lamp	DT22M-MRD ■ / △ ▲			
	Maintained Mushroom With Lamp	DT22M-MLD ■ / △ ▲			
	Two-position Momentary Selector Switch With Lamp	DT22M-S2RD ■ / △ ▲			
	Two-position Maintained Selector Switch With Lamp	DT22M-S2LD ■ / △ ▲			
	Three-position Momentary Selector Switch With Lamp	DT22M-S2RD ■ / △ ▲			
	Three-position Maintained Selector Switch With Lamp	DT22M-S2LD ■ / △ ▲			

Explanation

- ■ before the slash: Fill in the number of normally open and normally closed contacts.
- △ after the slash: Fill in the color.
- ▲ after the slash: Fill in the voltage for the lighted version.
- Please specify if you need customized service.

DT16 Button Switch Introduction

Overview

The DT16 series button switches are the best choice for customer requirements for panel miniaturization and centralized control. The product front frame comes in three specifications: circular (φ18mm), square (18*18mm), and rectangular (18*24mm). It includes signal Pilot Lamp, buttons, illuminated buttons, selector switches, key switches, emergency stop buttons, buzzers, etc. The standard installation hole is φ16mm, and some products can be equipped with reducing rings to install them in panels with a diameter of φ22mm. The product design and development comply with standards such as IEC 60947-5-1 and GB/T 14048.5, and can be widely used in industries such as mechanical manufacturing, rail transportation, power, wind power, etc.

Features

- Installation aperture: Φ16mm
- Touch material: gold plating, strong oxidation resistance, ensuring reliability of low current.
- The product has stable performance, low contact resistance, high vibration and shock resistance, etc.
- The product complies with standards such as IEC60947-5-1 and GB/T14048.5.
- Protection level: IP40 and IP65 are optional, and IP67 can be achieved by adding a sealed cover to some products.

Main Technical Parameters

Working environment temperature	-20℃~+55℃	Mechanical life	Momentary button	1,000,000 times
Working environment humidity	40-85%RH		Maintained button	500,000 times
Contact resistance	≤50mΩ		Key-lock button	200,000 times
Insulation resistance	≥100MΩ	Electrical life		≥50,000 times
Rated insulation voltage	250V, AC/DC			
Vibration resistance	The amplitude is about 1.2mm / 50Hz	Contact material		Gold Plating
Impact resistance	≥10g	IP Class		IP40(Dust Tight) IP65:(Waterproof)

Lamp Bead Specification
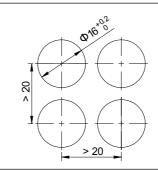
Types of lamp beads	Bi-directional LED lamp beads (Standard Configuration)
Rated voltage	AC/DC 6V	AC/DC 12V	AC/DC 24V
	AC/DC 110V	AC/DC 220V	
Lamp color	Red Green Yellow Blue White
Service life	Approximately 30,000h

Switch Rating
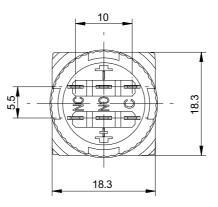
Heating current Ith	5A The current must not exceed the maximum rated value allowed by the temperature.		
Rated voltage	24V	125V(110V)	250V(220V)
DC	1A	0.2A	0.1A
AC	P.F=1	/	5A	3A
	P.F=0.7	/	3A	2A

Installation Hole Product Dimension Diagram
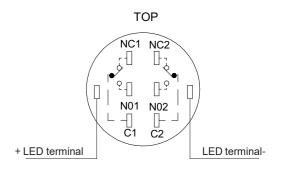
Category	A	A
Circular	≥18mm	≥18mm
Square	≥18mm	≥18mm
Rectangle	≥18mm	≥24mm
Mushroom shape	≥24mm	≥24mm
Large square	≥24mm	≥24mm
Large rectangle	≥18mm	≥24mm

Bottom Preview

Terminal Arrangement

TOP

NC1 NC2

N01 N02

C1 C2

+ LED terminal   LED terminal-

Naming Rules Explanation

DT16A- ☐ ■ / ◇ △ ▲

Corresponding Characters	Symbol name	Specific instructions
DT16A	Product series	DT16A: Φ16 button, Pilot Lamp
☐	Actuator type	FR: Momentary Flat / FL: Maintained Flat / FRD: Momentary Flat With Lamp
■	Contact form	11: One normally open, one normally closed / 22: Two normally open, two normally closed
◇	Twist head shape	Blank: Circular / F: Square / J: Rectangular
△	Color	RD: Red / GN: Green / YE: Yellow / WH: White / BU: Blue / BL: Black
▲	Lamp module voltage	AC/DC: 6, 12, 24, 36, 48, 110, 220V / AC: 110, 220, 380V / No letter indicates no light

Complete model example: DT16A-FR11/FRD Square, red Momentary flat button (one normally open and one normally closed)
Complete model example: DT16A-FRD11/RDAC/DC24V Red with Lamp, self-resetting flat button (one normally open and one normally closed, AC/DC24V)

Naming Rules Explanation

Product series	Actuator type	
	FR: (Flat reset)	S2RD: (selector 2 switch reset indicator)
	FL: (Flat lock)	S2LD: (selector 2 switch lock indicator)
	FRH: (Flat reset high)	S3R: (selector 3 switch reset)
	FLH: (Flat lock high)	S3L: (selector 3 switch lock)
	FRD: (Flat reset indicator)	S31: Left self-locking right self-repeating three-position selector switch
	FLD: (Flat lock indicator)	S32: Left self-locking right self-repeating three-position selector switch
	FRHD: (Flat reset high indicator)	S3RD: (selector 3 switch reset indicator)
	FLHD: (Flat lock high indicator)	S3LD: (selector 3 switch lock indicator)
DT16A	MR: (Mushroom reset)	S31D: Left self-locking right self-repeating three-position trap selector switch with light
	ML: (Mushroom lock)	S32D: Left self-locking right self-repeating three-position trap selector switch with light
	MRD: (Mushroom reset indicator)	K2R: (Key-lock selector 2 switch reset)
	MLD: (Mushroom lock indicator)	K2L: (Key-lock selector 2 switch lock)
	EP: (Emergency)	K3R: (Key-lock selector 3 switch reset)
	S2R: (selector 2 switch reset)	K3L: (Key-lock selector 3 switch lock)
	S2L: (selector 2 switch lock)	K3S1: Left self-locking right self-repeating three-position button switch
		K3S2: Left self-locking right self-repeating three-position button switch
		PL: Pilot Lamp
		BZ: Buzzer

Contact form	Color	Lamp module voltage
11: One normally open, one normally closed	RD: Red	Voltage level AC/DC:
22: Two normally open, two normally closed	GN: Green	6,12,24,36,48,110,220V
	YE: Yellow	AC:110,220,380V
	WH: White	
	BU: Blue	
	BL: Black	

DT16A Switch Types

| Products	Operation type	Articles number	Color	With light voltage	Product dimension diagram
	Round Momentary Flat	DT16A-FR ■ / △			
	Round Maintained Flat	DT16A-FL ■ / △			
	Square Momentary Flat	DT16A-FR ■ / F △	● Red - RD		
	Square Maintanied Flat	DT16A-FL ■ / F △	● Green - GN		
	Rectangular Momentary Flat	DT16A-FR ■ / J △	● Yellow - YE ○ White - WH		
	Rectangular Maintained Flat	DT16A-FL ■ / J △	● Blue - BU ● Black - BL		
	Momentary Mushroom	DT16A-MR ■ / △			
	Maintained Mushroom	DT16A-ML ■ / △			

○ Explanation
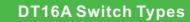
- ■ before the slash: Fill in the number of normally open and normally closed contacts.
- △ after the slash: Fill in the color.
- ▲ after the slash: Fill in the voltage for the lighted version.
- Please specify if you need customized service.

DT16A Switch Types

Products	Operation type	Articles number	Color	With light voltage	Product dimension diagram
	Round Two-position Maintained Selector Switch	DT16A-S2L ■ / △			
	Square Two-position Maintained Selector Switch	DT16A-S2L ■ / F △			
	Rectangular Two-position Maintained Selector Switch	DT16A-S2L ■ / J △			
	Round Three-position Maintained Selector Switch	DT16A-S3L ■ / △			
	Square Three-position Maintained Selector Switch	DT16A-S3L ■ / F △	● Red - RD		
	Rectangular Three-position Maintained Selector Switch	DT16A-S3L ■ / J △	● Green - GN		
	Round Two-position Maintained Key Switch	DT16A-Y2L ■ / △	● Yellow - YE		
	Square Two-position Maintained Key Switch	DT16A-Y2L ■ / F △	○ White - WH		
	Rectangular Two-position Maintained Key Switch	DT16A-Y2L ■ / J △	● Blue - BU		
	Round Three-position Maintained Key Switch	DT16A-Y3L ■ / △	● Black - BL		
	Square Three-position Maintained Key Switch	DT16A-Y3L ■ / F △			
	Rectangular Three-position Maintained Key Switch	DT16A-Y3L ■ / J △			
	Emergency Push Button	DT16A-EP ■ / △			

- ■ before the slash: Fill in the number of normally open and normally closed contacts.
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- ▲ after the slash: Fill in the voltage for the lighted version.
- Please specify if you need customized service.

DT16A Switch Types

Products	Operation type	Articles number	Color	With light voltage	Product dimension diagram
	Round Momentary Flat With Lamp	DT16A-FRD ■ / △ ▲			
	Round Maintained Flat With Lamp	DT16A-FLD ■ / △ ▲			
	Square Momentary Flat With Lamp	DT16A-FRD ■ / F △ ▲	● Red - RD	AC/DC6V	
	Square Maintained Flat With Lamp	DT16A-FLD ■ / F △ ▲	● Green - GN	AC/DC12V AC/DC24V AC/DC36V	
	Rectangular Momentary Flat With Lamp	DT16A-FRD ■ / J △ ▲	● Yellow - YE	AC/DC48V AC/DC110V AC/DC220V	
	Rectangular Maintained Flat With Lamp	DT16A-FLD ■ / J △ ▲	○ White - WH	AC110V AC220V	
	Momentary Mushroom With Lamp	DT16A-MRD ■ / △ ▲	● Blue - BU	AC380V	
	Maintained Mushroom With Lamp	DT16A-MLD ■ / △ ▲	● Black - BL		

- ■ before the slash: Fill in the number of normally open and normally closed contacts.
- △ after the slash: Fill in the color.
- ▲ after the slash: Fill in the voltage for the lighted version.
- Please specify if you need customized service.

DT16A Switch Types

Products	Operation type	Articles number	Color	With light voltage	Product dimension diagram
	Round Button Switch With Lamp, Two-position Maintained	DT16A-S2LD ■ / △▲			
	Square Button Switch With Lamp, Two-position Maintained	DT16A-S2LD ■ / F△▲			15.5 29.7 18.2 Φ18 18.2
	Rectangular Button Switch With Lamp, Two-position Maintained	DT16A-S2LD ■ / J△▲	● Red - RD	AC/DC6V AC/DC12V AC/DC24V AC/DC36V AC/DC48V AC/DC110V AC/DC220V AC110V AC220V AC380V	
	Round Button Switch With Lamp, Three-position Maintained	DT16A-S3LD ■ / △▲	● Green - GN		
	Square Button Switch With Lamp, Three-position Maintained	DT16A-S3LD ■ / F△▲	● Yellow - YE		
	Rectangular Button Switch With Lamp, Three-position Maintained	DT16A-S3LD ■ / J△▲	○ White - WH		
	Pilot Lamp	DT16A-PL ■ / △▲	● Blue - BU		10.2 29.7 18.2 Φ18 18.2
	Buzzer	DT16A-BZ ■ / △▲	● Black - BL		32±0.5 10±0.2 ±0.2 18.2±0.2 18.2±0.2

▢ Explanation

- ● ■ before the slash: Fill in the number of normally open and normally closed contacts.
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- ● ▲ after the slash: Fill in the voltage for the lighted version.
- ● Please specify if you need customized service.

Button Switch Accessories

Products	Articles number	Scope of use	Products	Articles number	Scope of use
	DTF22-1	Φ22 flat button protective cover		DTF22-5	Φ22 emergency stop ring
	DTF22-2/1	φ22 protective cover (5032)		DTF22-8	φ22 protective ring
	DTF22-2/2	φ22 protective cover(5537)		DTF22-9/1	φ22 emergency stop protective cover
	DTF22-3	φ22 waterproof cover		DTF22-10	Socket wrench
	DTF22-4	φ22 panel plug		DTF22-9/2	φ22 emergency stop protective cover (with text)
	DTF22-6	φ22 nameplate frame①		DTF16-1	φ16 protective cover
	DTF22-7	φ22 nameplate frame②			